

THE JOURNAL OF MEDICAL EDUCATION



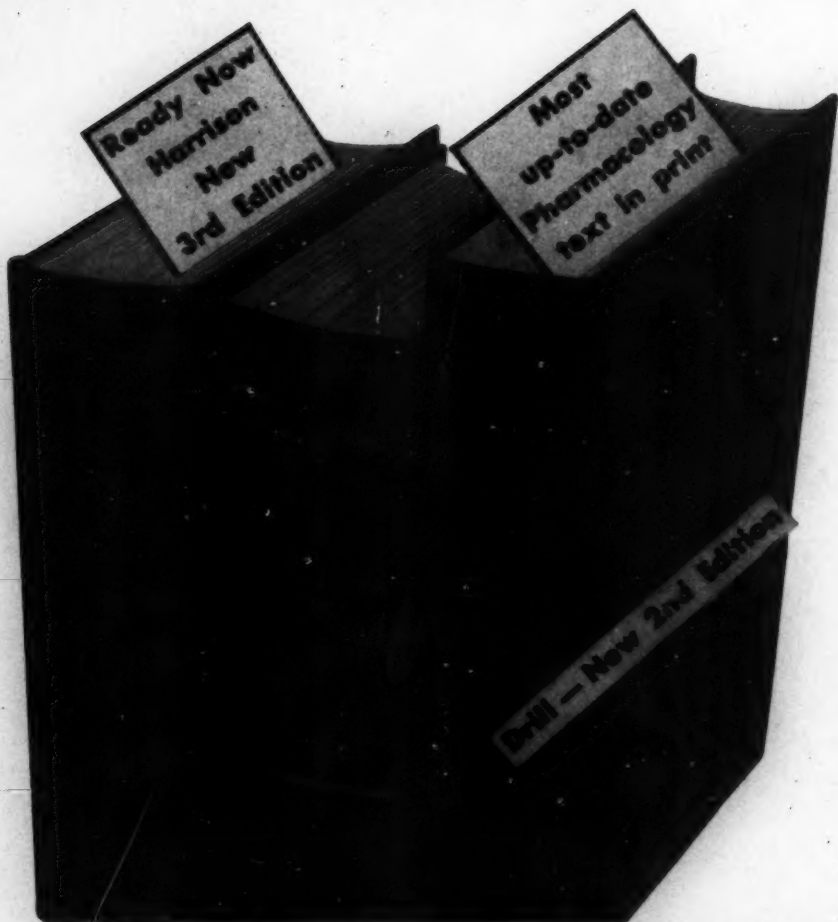
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Official Publication of the Association of American Medical Colleges

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The Journal of Medical Education serves as an important international medium for the exchange of ideas in medical education, as well as a means of communicating the policies, programs, and problems of the Association. The Editorial Board welcomes the submission of manuscripts concerned with the broad field of medical education; this includes preparation for medical education; the medical school experience; intern and resident education; graduate and postgraduate medical education. The Editorial Board recognizes that medical education includes the activities of faculty, students, administrators, and those of the practicing profession who also teach and learn. Thus, it invites communications from any of these sources.

Manuscripts should be submitted in duplicate. All manuscripts are reviewed by the Editorial Board before acceptance for publication. All copy, including footnotes, tables, and legends, should be typed double-spaced. Each diagram or graph or photograph should have a brief legend. Each table should be typed on a separate sheet of paper. References should refer to published material only, must be submitted in alphabetical order, and should include, in order: author, title, journal abbreviation (*Quarterly Cumulative Index Medicus* form), volume number, page, and year; book references should also include editors, edition, publisher, and place of publication.

Galley proofs will be mailed to authors for correction before publication and should be returned within 48 hours after receipt.

Reprints may be ordered when galley proofs are returned from the University of Chicago Press, in multiples of 50, at a price depending on the length of the article; prices are listed on the reprint order form.

Medical Education Forum includes editorials, letters, comments, criticisms, and excerpts from important addresses.

News from the Medical Schools: Material for this section should be transmitted to the News Editor, Mr. Tom Coleman, 2530 Ridge Avenue, Evanston, Illinois. Announcements of major faculty and administrative appointments, news of distinguished visitors and significant educational developments will be included. It is not possible to publish notices on grants-in-aid for scientific research.

Items of Current Interest: Audio-visual news and notices from national and federal agencies appear in this section.

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Address all correspondence concerning subscriptions, reprints, changes of address, and back numbers to the University of Chicago Press, 5750 Ellis Avenue, Chicago 37, Illinois. All changes of address should provide both the old and the new address.

Address all correspondence concerning news and announcements, advertising, and personnel exchange to the office of the Association of American Medical Colleges, % Mr. Tom Coleman, 2530 Ridge Avenue, Evanston, Illinois.

PRINTED IN U.S.A.

Detailed Operative Techniques in General Surgery

ATLAS OF TECHNIQUES IN SURGERY

By JOHN L. MADDEN, M.D., F.A.C.S.

Director of Surgery, St. Clare's Hospital, N. Y. C.

Associate Clin. Prof. of Surgery, N. Y. Medical College

Introduction by JOHN H. MULHOLLAND

Foreword by JAMES M. WINFIELD

Illustrations by ALFRED FEINBERG and ROBERT WABNITZ

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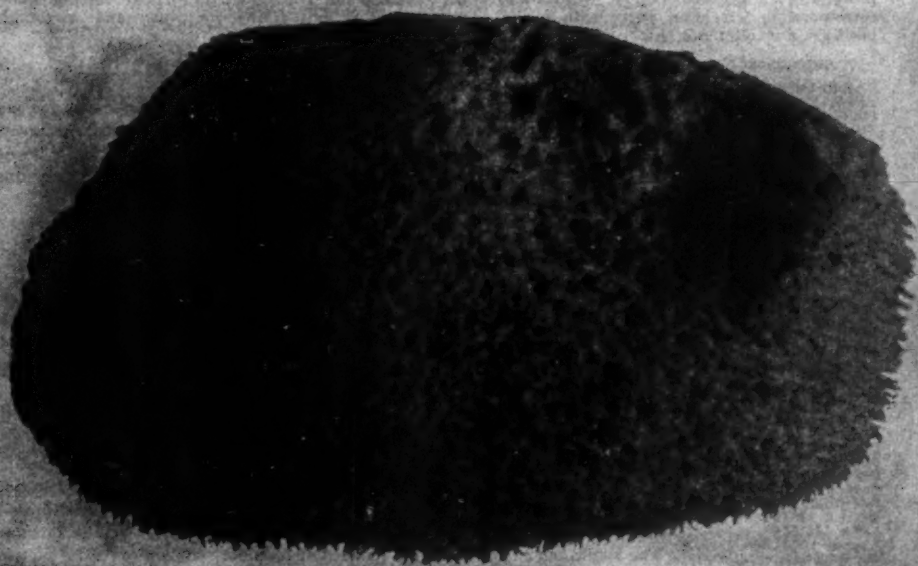
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MEDICAL COLLEGES

Medical School Teaching

Hospital Section, October 10-11

69th Annual Meeting, October 13-15

The Sheraton Hotel, Philadelphia, Pa.

OCTOBER

AMERICAN ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY, Palmer House, Chicago, Oct. 12-17. Dr. W. L. Benedict, 100 First Avenue Bldg., Rochester, Minn., Secretary.

AMERICAN ACADEMY OF PEDIATRICS, Palmer House, Chicago, Oct. 20-23. Dr. E. H. Christopherson, 1801 Hinman Ave., Evanston, Ill., Executive Secretary.

AMERICAN ASSOCIATION OF MEDICAL RECORD LIBRARIANS, Statler Hotel, Boston, Oct. 13-16. Miss Doris Gleason, 510 N. Dearborn St., Chicago 10, Executive Director.

AMERICAN ASSOCIATION OF PUBLIC HEALTH PHYSICIANS, St. Louis, Oct. 27-31. Dr. Joseph M. Bistowish, P.O. Box 1117, Tallahassee, Fla., Secretary.

AMERICAN CANCER SOCIETY, ANNUAL SCIENTIFIC SESSION, Biltmore Hotel, New York, Oct. 20-21. Dr. Scott Hill, Director, Professional Education, 521 W. 57th St., New York 19, N.Y.

AMERICAN COLLEGE OF GASTROENTEROLOGY, Jung Hotel, New Orleans, Oct. 19-25. Mr. Daniel Weiss, 33 W. 60th St., New York 23, Executive Secretary.

AMERICAN HEART ASSOCIATION, Fairmont Hotel, San Francisco, Oct. 24-28. Mr. John D. Brundage, 44 E. 23d St., New York 10, Secretary.

AMERICAN PUBLIC HEALTH ASSOCIATION, Kiel Auditorium, St. Louis, Oct. 27-31. Dr. Berwya F. Mattison, 1790 Broadway, New York 19, Secretary.

AMERICAN SCHOOL HEALTH ASSOCIATION, St. Louis, Oct. 26-31. Dr. A. O. DeWeese, 515 E. Main St., Kent, Ohio, Secretary.

AMERICAN SOCIETY OF ANESTHESIOLOGISTS, Penn-Sheraton Hotel, Pittsburgh, Oct. 19-24. Dr. J. Earl Remlinger, 802 Ashland Ave., Wilmette, Ill., Secretary.

AMERICAN SOCIETY OF PLASTIC AND RECONSTRUCTIVE SURGERY, Drake Hotel, Chicago, Oct. 12-17. Dr. Kenneth L. Pickrell, Duke Univ. Hosp., Durham, N.C., Secretary.

AMERICAN SOCIETY FOR THE STUDY OF ARTERIOSCLEROSIS, Hotel Whitcomb, San Francisco, Oct. 24-26. Dr. O. J. Pollak, P.O. Box 228, Dover, Del., Secretary.

ASSOCIATION OF STATE & TERRITORIAL HEALTH OFFICERS, Hotel Washington, Washington, D.C., Oct. 22-24. Dr. Mack I. Stanbolitz, State Office Building, Richmond, Va., Secretary.

CENTRAL NEUROPSYCHIATRIC ASSOCIATION, Deshler Hilton Hotel, Columbus, O., Oct. 17-18. Dr. Ralph M. Patterson, Ohio State Univ., College of Med., Columbus 10, O., Secretary.

CENTRAL SOCIETY FOR CLINICAL RESEARCH, Drake Hotel, Chicago, Oct. 31-Nov. 1. Dr. Austin S. Weisberger, 7063 Adelbert Rd., Cleveland 6, Secretary.

CONGRESS OF NEUROLOGICAL SURGEONS, St. Francis Hotel, San Francisco, Oct. 29-Nov. 1. Dr. Richard L. DeSaussure, 899 Madison Ave., Memphis, Tenn., Secretary.

EASTERN PSYCHIATRIC RESEARCH ASSOCIATION, INC., Brooklyn State Hosp., Brooklyn, N.Y., Oct. 23-24. For information write: Dr. David J. Impastato, 40 Fifth Ave., New York.

NOVEMBER

AMERICAN COLLEGE OF CAROLOGY, INTERIM MEETING, Jung Hotel, New Orleans, La., Nov. 20-22. Dr. Philip Reichert, Empire State Bldg., New York 1, Secretary.

AMERICAN SOCIETY OF CLINICAL PATHOLOGISTS, Congress Hotel, Chicago, Nov. 2-8. Dr. Clyde G. Culbertson, Indiana Univ. Med. Center, West Michigan St., Indianapolis, Secretary.

AMERICAN SOCIETY OF TROPICAL MEDICINE AND HYGIENE, Hotel Desauville, Miami Beach, Fla., Nov. 4-7. Dr. R. B. Hill, 3575 St. Gaudens Rd., Miami 33, Fla.

ASSOCIATION OF MILITARY SURGEONS OF THE U.S., Hotel Statler, Washington, D.C., Nov. 17-19. Col. Robert E. Bitner, 1726 Eye St., N.W., Washington 6, D.C., Secretary.

COLLEGE OF AMERICAN PATHOLOGISTS, Congress Hotel, Chicago, Nov. 1-5. Dr. A. H. Dearing, Prudential Plaza, Suite 2115, Chicago 1, Executive Secretary.

INTER-SOCIETY CYTOLOGY COUNCIL, Hotel Statler, New York, Nov. 13-15. Dr. Paul F. Fletcher, 634 N. Grand Blvd., St. Louis 3, Secretary.

INTERSTATE POST GRADUATE MEDICAL ASSOCIATION OF NORTH AMERICA, Cleveland, Nov. 10-13. Dr. Erwin R. Schmidt, Box 1109, Madison 1, Wis., Secretary.

NATIONAL SOCIETY FOR CRIPPLED CHILDREN & ADULTS, Statler Hilton Hotel, Dallas, Tex., Nov. 16-20. Miss Catherine Bauer, 11 S. LaSalle St., Chicago 3, Director of Information.

NEW ENGLAND POSTGRADUATE ASSEMBLY, Statler Hotel, Boston, Nov. 4-6. Mr. Robert S. Boyd, Massachusetts Medical Society, 22 The Fenway, Boston 15, Executive Secretary.

PUERTO RICO MEDICAL ASSOCIATION, Santurce, P.R., Nov. 18-22. Mr. J. A. Sanchez, Box 9111, Santurce 29, P.R., Executive Secretary.

RADIOLOGICAL SOCIETY OF NORTH AMERICA, Palmer House, Chicago, Nov. 16-21. Dr. Donald S. Childs, 713 E. Genesee St., Syracuse 2, N.Y., Secretary.

UNITED STATES SECTION, INTERNATIONAL COLLEGE OF SURGEONS, MID-ATLANTIC REGIONAL MEETING, The Homestead, Hot Springs, Va., Nov. 17-18. For information address: Dr. Elwynne G. Gill, 711 Jefferson St., S., Roanoke 13, Va.

DECEMBER

AMERICAN ACADEMY OF DERMATOLOGY AND SYPHILOLOGY, Palmer House, Chicago, Dec. 6-11. Dr. R. R. Kierland, Mayo Clinic, Rochester, Minn., Secretary.

AMERICAN MEDICAL ASSOCIATION, CLINICAL MEETING, Hotel Leamington, Minneapolis, Dec. 2-5. Dr. George F. Lull, 535 N. Dearborn St., Chicago 10, Secretary.

ASSOCIATION FOR RESEARCH IN NERVOUS AND MENTAL DISEASES, Hotel Roosevelt, New York, Dec. 12-13. Dr. Rollo J. Manselink, 700 W. 168th St., New York 32, Secretary.

INTERNATIONAL AND FOREIGN

OCTOBER

INTERNATIONAL CONGRESS OF ALLERGOLOGY, Paris, France, Oct. 19-26. Dr. Samuel M. Feinberg, 303 E. Chicago Ave., Chicago 11, Ill., U.S.A., President.

INTERNATIONAL CONGRESS OF MEDICAL HYDROLOGY, Madrid, Spain, Oct. 22-30. For information address: Dr. Frances, 55, rue des Mathurins, Paris 8, France.

NOVEMBER

BAHAMAS MEDICAL CONFERENCE, British Colonial Hotel, Nassau, Bahamas, Nov. 28-Dec. 18. For information write: Dr. B. L. Frank, 23 E. 79th St., New York 21, New York, U.S.A.

INTER-AMERICAN CONGRESS OF RADIOLOGY, Lima, Peru, Nov. 2-8. Dr. Jorge de la Flor, Hospital Arzobispo, Loayza, Lima, Peru, Secretary.

PAKISTAN MEDICAL CONFERENCE, Dacca, East Pakistan, Nov. 23-27. Dr. K. S. Alam, 35, Nasimuddin Road, Dacca, East Pakistan, Conference Secretary.

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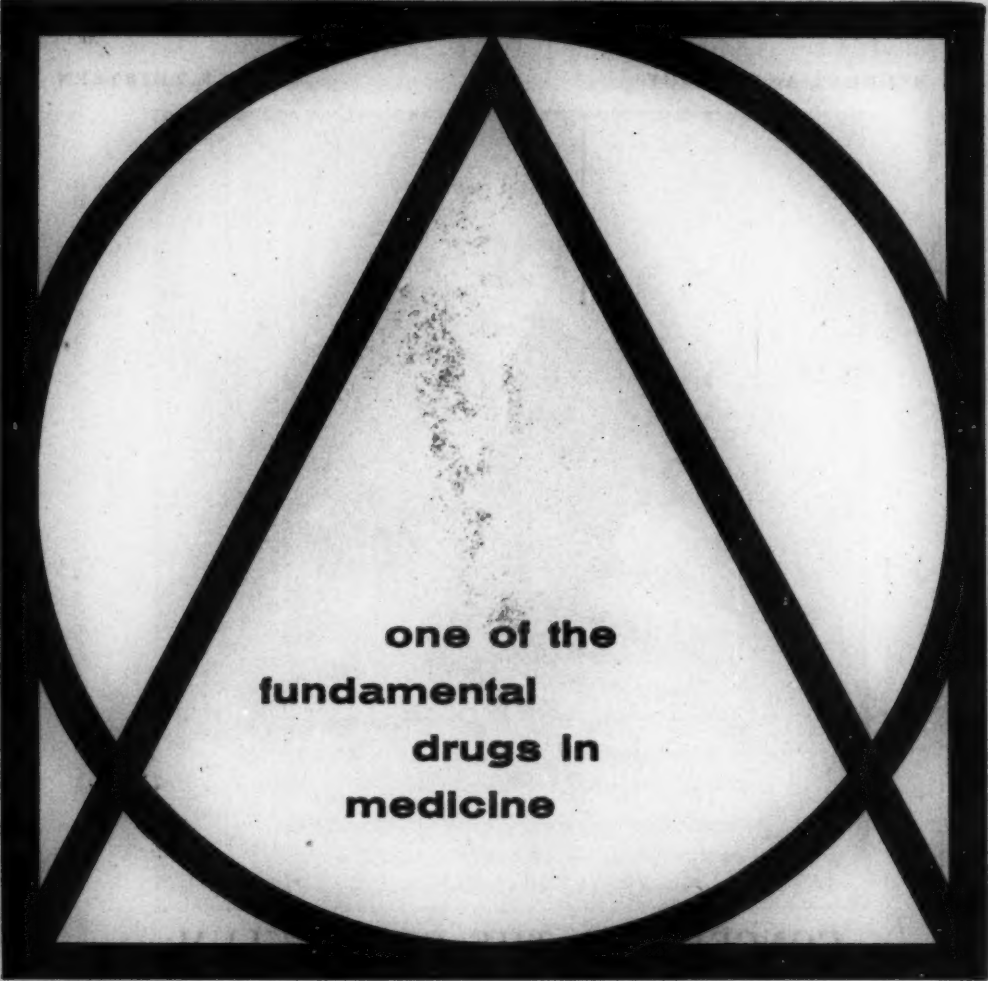
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THERAPEUTIC DIRECTION THROUGH BASIC RESEARCH

L
LAKESIDE

The Medical School of the University of Western Australia

GORDON KING, O.B.E., F.R.C.S., F.R.C.O.G.*

University of Western Australia

Since 1945, Australia has emerged as one of the most rapidly expanding countries in the world, with a population growing at an average rate of 2½ per cent every year and secondary industries springing up in profusion to supplement her traditional primary production. The State of Western Australia, which occupies nearly one third of the continent, has shared in the general inflow of population and for a long time has been conscious of the fact that her need for doctors has been greater than the numbers provided by the process of immigration. Many discussions were therefore held about the possibility of founding a medical school in the State, and in 1955 these culminated in a report to the Premier, which formed the basis upon which a medical school has now been brought into being. The report was followed by an appeal to the people of the State, which resulted in the astonishing sum of over £570,000 being raised by public subscription for the support of the new school. The state government has increased this sum by £150,000 and has undertaken to pay the annual operating costs.

The total population of this immense State is still less than three quarters of a million, which might seem too meager to feed a successful medical school; but most of the people are concentrated in the small metropolitan area centered on Perth and Fremantle, which has a population of nearly 400,000. It is here that the medical school has been created within the framework of the University of Western Australia and has made use, as far as possible, of existing

medical institutions. The University, which stands beside the Swan River about 4 miles from the center of Perth, was founded in 1912, and the new Faculty of Medicine is the ninth of its faculties, the others being Arts, Law, Education, Economics, Science, Engineering, Agriculture, and Dental Science.

PHYSICAL FEATURES

Physiology was already taught to science students and others at the University before the advent of the medical school, and the new departments of Anatomy and Biochemistry are being housed near the existing physiology building. These three departments share certain common facilities; there is a combined preclinical library, a common workshop and dark-room, and a lecture theatre, the use of which is carefully rationed. Construction of the permanent building for Biochemistry is now in process of being completed.

The headquarters of the para-clinical and clinical departments is in the city at the Royal Perth Hospital, 4 miles from the main University site. This is a well equipped hospital of some 600 beds, which has only just been completed. Unfortunately, it was not planned as a teaching hospital, and this has given rise to considerable problems of accommodation. The administrative offices of the medical school, together with the departments of Pathology and Microbiology and the student and faculty common rooms, are to be found within a new building adapted from the radium block of the hospital; the two departments share a common lecture room and student laboratory. Close by is the medical library, a joint

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project to which the West Australian branch of the British Medical Association, the Royal Perth Hospital, and the University have all contributed. The departments of Surgery and Medicine are in the hospital itself, and the department of Obstetrics and Gynecology is in the King Edward Memorial Hospital about 2 miles away. The department of Child Health is in the Princess Margaret Hospital for Sick Children, also at some little distance from headquarters.

Whilst adequate space for the teaching departments is ensured for the next few years, it will not be long before accommodation will become a real problem, and the ultimate aim of the school is to establish a Medical Center around a new hospital to be built on University ground close to the University itself. In this way, the spatial gap between preclinical and clinical work would be abolished, and optimum accommodation could be planned for both students and staff. Such a project would naturally be an enormously costly one, but already planning has been started with the object of achieving a modern Medical Center at the earliest possible date.

STUDENTS

The capacity of the preclinical departments at present does not exceed 60 medical students a year, and the clinical departments can take no more than 48; these figures can only be increased by providing additional accommodation and staff and by tapping additional sources of clinical teaching material. The preclinical departments have, in addition to their medical commitments, responsibilities to students in the faculties of Science, Agriculture, and Dental Science, as well as to physiotherapy students, and to small groups studying matters such as optometry and physical education.

In 1957 the University of Western Australia accepted 2,365 matriculated students. Over 300 of these were external students, leaving some 2,000 actually present in the University classrooms. Most of these were between 17 and 18 years of age (the mini-

mum age requirement is 17) and had had very varied educational backgrounds, because, as can be imagined in a state of this size, there are considerable differences between different schools. The University does not practice pre-selection of students, and everyone who can matriculate is admitted to the faculty of his choice. This system is standard throughout Australian universities, though the University of Melbourne has for 12 years or more been forced to adopt a form of pre-selection to limit entry to the medical faculty. In Western Australia the faculty of medicine is on all fours with the other faculties and accepts all suitably qualified applicants.

For about 40 years medical students have been able to take the first year of their medical course in Western Australia, the subjects studied being those which the other Australian universities recognize as the standard first-year curriculum. Those who successfully completed the first year formerly left the State to complete their medical course at another university, usually the University of Adelaide, some 1,400 miles away.

In 1958, however, the successful students are for the first time able to continue their studies within the University of Western Australia. The first-year entry in 1957 was 84, a figure which would have caused the second-year accommodation some considerable embarrassment had they all passed their examinations. However, the unrestricted entry, with its corollary of crowded first-year classes working at high pressure, results inevitably in a high failure rate at the end of the first year, and in 1958 the limit of 60 students imposed by the available accommodation and staff was not exceeded, although selection among limited groups of students was necessary. The first-year entry in 1958 is 81, and if the numbers increase significantly above this level in future years, selection of students at the second-year level will have to be seriously considered.

It is regretfully hoped that normal wastage will reduce the number entering the second year to a level with which the clinical

departments can cope. At present these departments are involved in taking over from the University of Adelaide those West Australian students who are in the final 2 years of their medical course there. In 1957 sixteen students from Adelaide completed their clinical work in Perth, and in 1958 a similar number of final year students and an additional party of fifth-year students have returned to finish their course in their native state. Eventually this gradual taking-over at either end of the curriculum will result in the first medical degrees being awarded by the Faculty of Medicine in 1959, though the first students who will have completed the entire course in Western Australia will not graduate until 1962.

STAFF

The previously existing professorial chairs in zoology, botany, physics, chemistry, and psychology were, on the establishment of the medical school, supplemented by the creation of nine further chairs, those in anatomy, biochemistry, physiology, pathology, microbiology, medicine, surgery, obstetrics and gynecology, and child health. Perhaps the most notable absentees from this list are pharmacology and psychiatry; teaching in both subjects has been provided for, but at present only at subdepartment level. The paraclinical professors of pathology and microbiology are responsible for the corresponding hospital service departments; the clinical professors have beds in the corresponding hospitals. The clinical professors, though nominally "whole-time," have been permitted to undertake private consultation work and to charge fees up to a stipulated maximum each year, any excess to go to the University.

The professors have now all arrived and taken charge of their departments, but several junior appointments remain to be filled. Clinical teaching is done by the staffs of the clinical departments and by the clinicians attached to the teaching hospitals as honoraries. Some admirable work has already been done by these honoraries, many of whom have had little previous experience

of teaching students: they are finding teaching a stimulating exercise into which they are putting a great deal of enthusiasm.

DEGREES

The qualifying degree will be a baccalaureate of medicine and surgery (M.B., B.S.). The question of awarding the degree of Bachelor of Medical Science (B.Med.Sci.) for work in the preclinical and paraclinical departments is under consideration. Post-graduate students will be able to obtain the higher degrees of Doctor of Medicine (M.D.) or Master of Surgery (Ch.M.) by submitting an original thesis. In addition, as in all other faculties, it will be possible to obtain a doctorate of philosophy (Ph.D.) in the faculty of medicine.

THE QUALIFYING MEDICAL COURSE

In the framing of the curriculum, which has naturally been one of the major tasks of the faculty in the preliminary period of planning, certain basic ideas have been constantly in mind. The first of these is that adequate liaison between the various members of the staff responsible for teaching in the different departments is vital to the success of the teaching programme. Throughout the planning period a series of weekly and sometimes bi-weekly informal meetings have been held among the professors in the new faculty, and it is generally felt that this has been of immense value. Objections and problems have been freely ventilated and overcome. It is proposed to continue these informal meetings—quite apart from the official faculty meetings—for an indefinite period.

The second basic idea is that the attitude of the teaching staff and the students toward the process of becoming a doctor is more important than the details of curricular timing or of teaching methods, however admirably these may be arranged. The third idea is perhaps a corollary of the second: that it must not be assumed that what is traditional is necessarily outmoded and that what is experimental is *ipso facto* desirable.

Nevertheless, it was clearly realized at

the outset that the new "Recommendations" of the General Medical Council (1), which came into effect in 1957, allowed the new medical school an opportunity, hitherto unparalleled in British medical schools, of trying to put into operation some of the suggestions which have been current in Britain and America for several years. For the first time a considerable degree of freedom in planning was possible, and it would have seemed foolish not to take advantage of this in order to try to effect some improvements on the traditional curricular pattern.

The fourth basic idea was that any detailed planning must at all costs be flexible, so that in the early stages any suggestion of finality must be avoided. Only by experience can the curriculum be evaluated, and it is intended to keep the situation under continuous review, so that faults and omissions can be rectified before they crystallize into immutable traditions.

The problem presented had several facets. Among them were the difficulties induced by the necessary use of the first few years as a selection device for the later years and by the relative immaturity of the students in the early stages. The restricted accommodation, leading to duplication of practical classes, and the scarcity of clinical teaching material both produced a crop of troubles. Finally, the geographical isolation of Perth and the separation of the preclinical departments from the paraclinical and clinical work led inevitably to other difficulties.

It was initially decided that the undergraduate curriculum should be fixed at 6 years. In the first 2 years the academic terms will conform to the three standard University terms of 9 weeks each; in the third year there will be two terms of 12 weeks and one of 9 weeks; and from the fourth year onward the medical academic year will consist of three 12-week terms. After graduation, the new doctor must, in accordance with the West Australian Medical Act, spend an additional year in hospital intern appointments before being allowed to undertake private practice.

Having made this decision, the faculty

had to decide how the time should be spent, and here the detailed discussions were animated by certain principles. The first of these was that the student should be allowed elbow room to think and should not be hustled from one class to another throughout the working day until at last he fell senseless into bed.

It was decided that the best way of accomplishing this would be to cut down formal didactic lectures to an absolute minimum; as far as possible the time so released would either be given to the student to use according to his needs and difficulties or be taken up by classes of the tutorial or seminar variety. In this way, the student might be encouraged to employ his own brain to think with. In the early stages, with immature students, the proportion of didactic material would have to be higher than in the later part of the curriculum.

The arrangement of the curriculum allows Wednesday of each week to be free from organized classes. The day has been named *Commingle Day* and has been introduced with carefully considered purposes: to enable the student to meet people of various vocations in an attempt to breach the widening gap between medicine and the community, thereby giving him a first-hand insight into the ways, the problems, and activities of those among whom he is likely to serve his calling in the future; to help him to develop a sympathetic humanism, and to encourage him to believe that his future life as a doctor can be one of continued stimulation and study, with absorbing medical pursuits beyond those presented to him within the ambit of text-books, formal teaching, and class examinations.

Commingle Day activities are organized for the most part by the students, and attendance is voluntary. Each week a visitor is invited to lecture, the speakers being chosen by the students without restriction: a member of another university department, a visitor to the state, a pastoralist, an actor, and so on, will be eligible. A student acts as chairman, and the visitor is later informally entertained. The remainder of the day is

presented to the student as time to take part in meetings of various clubs within the Medical Students' Society or to undertake, for example, a piece of field work in social medicine as a practical application of some branch of this subject.

In the preclinical years part of Commingle Day will be occupied by demonstrations in various aspects of the subjects being studied, and during the later years students on call for obstetrical or surgical emergencies, for example, will naturally give priority to these obligations.

The second principle adopted was that there should be the maximum possible co-ordination between the various stages of the curriculum and between the individual departments taking part at each stage. Complete or partial "integration," in the manner of Western Reserve, was rejected on the grounds of the smallness of the staff and the heavy burden of nonmedical responsibilities borne by the preclinical departments. Agreement on the principle of co-ordination has led to the formulation of three co-ordinated courses in the curriculum.

The first of these occurs in the second year and consists of a combination of introductory physiology with general anatomy and histology. This course in "human structure and function" is given by the departments of anatomy and physiology as separate entities, but the sequence and timing of the material have been completely agreed on by the departmental staffs. The body is treated systematically, and in each system the account of the macroscopic and microscopic anatomy precedes or accompanies the account of function.

The second coordinated course is intended to bridge the physical and psychological gap between the university and the hospitals. Under the aegis of the preclinical departments the student will be gradually induced to consider deviations from the normal anatomical, physiological, and biochemical patterns he has learned, and will study them in hospital patients. This course is given by preclinical and clinical teachers, and is in no sense a course of instruction in

"case-taking"; it is concerned mainly to show how biochemistry, physiology, and anatomy merge imperceptibly into pathology, surgery, and medicine from infancy to old age.

A third coordinated course occurs in the fifth year of study and consists of a series of symposia on preventive and social medicine. These joint undertakings involve the departments of Medicine, Microbiology, Psychology and Child Health, the staff of the State Public Health Department, etc.

THE PROVISIONAL CURRICULUM

First year.—At present the medical student takes physics, chemistry, zoology, and botany. In both zoology and botany a course is provided which is specially tailored to the requirements of medical students. The General Medical Council suggests that physics, chemistry, and biology are desirable in the first year, and when additional lecturing staff can be provided it is proposed to run a co-ordinated biology course specially for medical students. In this course zoology will be the predominant partner, and the general and functional aspects will be stressed throughout, morphological and taxonomic material being restricted. This combined course will not occupy as much time as the standard botany and zoology courses do, and the question of requiring the student to take a fourth class in his first year is under consideration. It is generally felt that any such class should be a matter of choice, and need not have any immediate connection with medicine. Several Arts courses have been suggested as desirable—for example, logic, philosophy, English—as well as a special course to be given by the Arts faculty for medical students. Nothing specific in this regard can be decided until the question of staffing has been settled.

Second year.—The student will take the coordinated course in structure and function, together with a course in elementary biochemistry and the first stages of topographical anatomy. The "structure and function" course and the course in topographical anatomy have been interlocked

so that the student dissects the upper limb and the brain while the nervous and locomotor systems are being discussed; the dissection of the thorax in part coincides with the systematic coverage of the circulatory and respiratory systems, and the dissection of the abdomen is concurrent with the study of the alimentary and endocrine systems. In the absence of complete integration satisfactory solutions to all the difficulties encountered are not to be expected, but at least it appears possible to avoid some of the dissociation which commonly occurs in the student's mind between the dissecting room and the outside world. At the end of the year there will be a co-ordinated examination; every question in the first paper will demand a knowledge of the relevant anatomy and physiology, biochemistry being brought in where possible. The second paper will be more orthodox, separate questions being asked by each of the three departments. The coordinated examination paper is designed to avoid the student breaking down the co-ordinated course into its components again by working for orthodox examinations in which the "subjects" are artificially separated. The second-year examinations will have the force of a selection device, and by this means unsuitable students who have survived the first year will be weeded out before they have had time to commit themselves irrevocably to a medical course.

Third year.—Topographical anatomy continues throughout the first two terms, followed by a professional examination. More advanced physiology and biochemistry continue throughout the year. In the second term the student will spend 1 day a week at the hospital. In the morning of that day he will have a course in general pathology, and in the afternoon his co-ordinated preclinical-course in the atmosphere of the hospital. A preclinical teacher will give an introductory talk revising and extending knowledge already acquired, and subsequently the students will split up into groups under the tutelage of clinical teach-

ers to study the problems discussed as they are manifested in hospital patients.

In the third term 3 days a week are spent in this way, and a course in the principles of microbiology and immunity is added to the general pathology. Physiology and biochemistry still continue on one day a week at the University. At this time the teaching of obstetrics and gynecology is introduced as part of the co-ordinated course; the physiological aspects of menstruation, pregnancy, parturition, and lactation will be discussed. It is also intended that each student shall witness a normal delivery and that he will follow the subsequent history of the child in relation to the home environment as a practical exercise in social medicine. At this juncture, practical demonstrations will be given in the changing standards of normality during growth in childhood, and behavior patterns in infants and small children will be studied.

At the end of the third year there will be a coordinated examination in physiology and the principles of pathology, as well as the professional examination in biochemistry. The object of the coordinated examination is again to avoid the compartmentation of knowledge.

Fourth year.—Microbiology now holds a more clinical course which occupies the first term; formal instruction in systematic pathology continues till the end of the second term (and during the second term clinical biochemistry will be taught), when the professional examination in pathology and microbiology will then be held. The didactic teaching in medicine and surgery is spread throughout the year, and the student will do his medical and surgical clerkships, 6 months in each. Three months of each clerkship will be spent in the professorial units, and the other 3 months in one of the "firms" directed by senior clinicians.

Fifth year.—In the fifth year occurs the didactic teaching on obstetrics and gynecology, and there will also be a series of lecture-demonstrations in the relevant pathology. The clinical clerkships in obstetrics and

gynecology will occupy a period of 4 months during the fifth year. In the fifth year also, instruction will be given in pediatrics and psychiatry. The study of the normal child in the third term of the third year will allow 4 months to be spent on the study of diseases of children. Emphasis will be placed on emotional disorders and behavior problems. For their clinical work during the part of the year still unoccupied, the students will spread out on minor specialties, such as anesthetics, orthopedics, otology, ophthalmology, etc.

On one afternoon a week students will foregather for symposia on preventive and social medicine, in which all clinical departments will cooperate. The material covered will include vital statistics, nutrition, the epidemiology and prevention of infectious diseases, accidents, delinquency, etc. Some of the formal teaching and demonstrations in psychiatry will occur in this course.

Sixth year.—In this year the student will be left relatively free from formal lectures and will be able to revise his knowledge by attendance at tutorials, ward-rounds and outpatient sessions of his own choosing, by attendance at clinico-pathological conferences (which will be featured throughout the clinical course) and at "grand rounds" run by the students themselves under guidance. At the end of the year will be the qualifying examinations; it is suggested that these also should be of the co-ordinated variety, each paper containing material requiring a knowledge of disciplines other than the one under immediate consideration. Questions on clinical anatomy will also be included, in order to keep alive the idea that anatomy is a clinical subject—a point which is to be kept before the student throughout his clinical years.

SPECIAL SUBJECTS

The above brief outline makes no mention of a number of other subjects of considerable importance. *Statistics* is to be given according to a pre-arranged plan by

the various departments involved; thus, anatomy is to deal with the normal distribution, standard deviations, and the whole question of biological variation. Physiology will take up the matter of the significance of means and the methods of comparing them; in the course in pharmacology the methods of evaluating the actions of drugs will be dealt with, and so on.

Psychology is to be given in several places in the curriculum. In the first and second terms of the third year a general outline of normal psychological material is to be laid before the student, and in the fourth and fifth years an account of the normal development of the mind during childhood will be given. In addition, however, it is proposed to hold sessions on specific psychological problems—hypnotism, race prejudice, extra-sensory perception, leadership, and the like—on "free time" days as a voluntary activity.

Genetics is proposed as a short course of perhaps six lectures of fairly direct clinical interest given in the fourth year.

Pharmacology is still under consideration. It is felt that it should grow directly out of physiology and, indeed, that the instruction should be given in the physiology department. At the same time, a pharmacologist should play a full part in the clinical discussions from the fourth year onwards.

POST-GRADUATE TEACHING

Newly qualified doctors serving their additional year in the hospital as interns would naturally participate in clinico-pathological conferences and other clinical teaching activities. It is also proposed to run a series of utilitarian courses for the benefit of those who wish to take a specialist diploma of one sort or another, and at the same time to provide a number of symposia which will be of interest to those who are safely past such milestones, but who wish to refresh their minds and keep up to date on certain aspects of their subjects. These courses and symposia will naturally be undertaken in the evenings.

RESEARCH

Understandably, little research has yet been done. With the exception of the department of physiology, none of the medical departments proper was in existence 18 months ago, and these 18 months have been a period of intense planning, building, and committee work. However, the future outlook for research is most hopeful, again owing to the generosity of the people of Western Australia. Apart from the assistance of the foundations and the Commonwealth Government in providing individual grants, several large benefactions have been set aside for research purposes, and all moneys in excess of the target figure of £400,000 aimed at by the appeal have been earmarked for research and "special purposes."

THE FUTURE

Little of what has been said regarding the curriculum can be looked on as permanent, but it is unlikely that any basic change will be readily made in the underlying principles. When circumstances alter as, for example, when the medical center becomes a

reality, it will be necessary to make a radical revision of the details of our thinking but not, we hope, of our central beliefs. We are fully conscious of the experimental nature of much that we have planned, and also of the fact that our planning has been adapted to specific local circumstances and is not necessarily suitable for other conditions. All that we can hope to do is to achieve the object for which the school was so generously founded by the people of the State—to educate medical students to take a worthy and useful place in society, to provide a storehouse of medical knowledge and skill, and to carry out research which will further our understanding of man and his diseases.

ACKNOWLEDGMENTS

I am indebted to all of my colleagues for their help in preparing this article, which represents the collective views of the teaching staff of the new School of Medicine in Western Australia.

REFERENCE

1. Recommendations as to the Medical Curriculum, General Medical Council, p. 15, London, 1957.

Samuel Bard 1742-1821*

CLAUDE EDWIN HEATON†

136 E. 64th Street, New York 21, N. Y.

Among the most distinguished of eighteenth-century physicians in Colonial America was Samuel Bard, who lived during the turbulent Revolutionary period and the Reconstruction. His name is perpetuated by Bard College at Annandale-on-Hudson, by Bard Hall at the Columbia-Presbyterian Hospital Medical Center, and by the Bard Professorship of Medicine at the same institution. It was men like Bard, wrote William Osler, who "have been the leaven which raised our profession above the dead level of business."

Samuel Bard was born in Philadelphia in 1742, of French Huguenot descent on both sides. His father, Doctor John Bard, moved to New York City on the advice of his friend Benjamin Franklin, since there was an opening for him because several physicians had died during a yellow fever epidemic.

Young Bard received a classical education at Kings College (now Columbia), during which time he gave some attention to medical studies under his father. In 1760, he was sent abroad to obtain a medical education, but the vessel on which he traveled was captured by a French privateer and Bard was confined to Bayonne Castle for 5 months. He was finally freed through the influence of Franklin and reached London in July, 1761.

With the kindly help of Doctor John Fothergill, "one of the best of men," he was able to spend the summer profitably as an apprentice pupil in Saint Thomas'

Hospital and also attended Colin MacKenzie's lectures on midwifery. At the same time he did some dissecting under William Hunter. In September, 1762, Bard went on to Edinburgh, where the Scottish school



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SAMUEL BARD, M.D., LL.D.

was fast becoming the center of medical education in Europe. Cullen, the two Monros, and a number of other talented teachers were attracting pupils even from the wilds of America. He was delighted with Alexander Monro (secundus), the greatest of the three Monros who was then Professor of Anatomy.

"My day in general," he wrote his father,

* This is the second in the current series of biographies of eminent medical educators.

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"is thus spent: from seven to half after ten, I am at present employed in the mathematics; which will soon, however, be changed for professional reading and the examination of my notes; I then dress, and am by eleven at College, attending Professor Ferguson until twelve; from that hour until one, at the hospital; from one till two, with Dr. Cullen; from two to three, I allow to dinner; from three to four, with Monro in anatomy; from four to five, or half after, I generally spend at my flute, and taking tea, either at a friend's room, or with a friend in my own; after this I retire to my study, and spend from that until eleven o'clock in connecting my notes, and in general reading. This is the plan I have set down for myself, and am resolved to stick close to it, for the winter at least."

In a letter dated August 10, 1762, his father wrote: "There are two things in your residence abroad I have much at heart: first, that you should acquire the character of an ingenuous and skillful physician; and secondly, that of an easy, well-bred gentleman."

The letters which passed between father and son and other members of the family were printed in McVickar's *A Domestic Narrative of the Life of Samuel Bard* published in 1822. These and many others are now to be found in the Malloch Room of the Library of the New York Academy of Medicine.

At Edinburgh Bard found John Morgan from Philadelphia, who evidently told him about his plans for instituting a medical school in his native city. Dr. Shippen had already opened his anatomical class. On December 29, 1762, Bard wrote his father: "I wish with all my heart, they were at New York that I might share amongst them, and assist in founding the first medical college in America. . . . I own I feel a little jealous of the Philadelphians, and should be glad to see the college of New York at least upon an equality with theirs."

On May 15, 1765, Bard wrote his father: "The day before yesterday, I received my

degree, with all the form and ceremony usual upon such occasions. The two Monros, with Dr. Cullen, were in all my private examinations. My good friend Dr. Hope, publicly impugned my Thesis; and to all of them I consider myself much indebted, for their behavior upon this occasion, in which, although they kept up the strictness of professors, they never lost sight of the politeness of gentlemen. My examinations were as follows: on the first day, I had not the most distant hint what was to be the subject of my trial. I went in, I confess, trembling, and Dr. Cullen began my examination by asking me some general definitions, as "quid est medicina?" and so on: he then went to the structure of the stomach and alimentary canal, thence made a digression to their diseases, with their diagnosis and method of cure. Then, young Dr. Monro followed upon similar topics. This ended my first examination, which lasted an hour. My next, consisted in writing commentaries upon two aphorisms of Hippocrates, and defending them against old Dr. Monro, and Dr. Cullen, which took up one hour also. My last private one was writing commentaries upon two cases in practice, much in the same manner as those I sent, which I defended against young Dr. Monro, and Dr. Cullen. This examination took up an hour and a half; and lastly, I was called upon publicly in the hall, to defend my Thesis. During all these trials, my exercises were not only written in Latin, but I was obliged to defend them in the same language; not even in the first, where I was ignorant of my subject, being allowed to speak a word of English." Bard's thesis was entitled *De viribus opii*.

After several months of postgraduate study in London Samuel Bard returned to America. He had received for that day an excellent as well as an expensive medical education. His training abroad had cost his father over one thousand pounds.

In 1767, Bard along with five other physicians founded the Kings College Medical School. Bard was elected Professor of the

Theory and Practice of Medicine (1762-1776). Three years later midwifery was added to his chair.

At the first commencement held in Trinity Church on May 16, 1769, Dr. Samuel Bard delivered *A Discourse upon the Duties of a Physician with some Sentiments, on the Usefulness and Necessity of a Public Hospital*. This was published at New York in the same year, and, although the ideas expressed are by no means original, this now rare little pamphlet has become a classic in American medicine and is considered our first book on medical ethics. Bard pointed out that "the practice of medicine cannot be taught but in a public hospital," and pleaded for high ideals of life and conduct among physicians, especially in their relations with other practitioners and with the poor. This address led to the establishment of the New York Hospital in 1771.

One of Bard's most important contributions was on diphtheria which appeared at this time, entitled *An Enquiry into the Nature, Cause, and Cure of the Angina Suffocativa or Sore Throat Distemper*, New York, 1771.

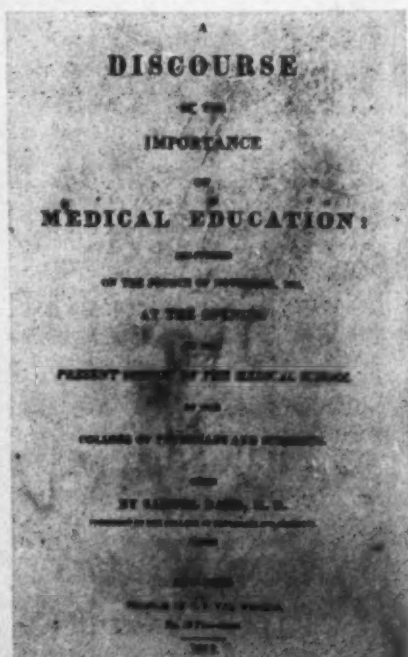
The outbreak of the Revolution halted the advance of medicine in New York City. Bard was a Tory and during the seven years of British occupation practiced medicine in the city. However, he was not actively engaged on the side of the British.

In September, 1888, New York City was selected as the capital of the United States. The following year Dr. Samuel Bard operated on President Washington for a carbuncle, assisted by his venerable father.

New York Hospital finally opened for the reception of patients in 1791, with Bard as senior physician. Kings College had now become Columbia College. Bard served as Professor of Chemistry from 1784 to 1787 and of Natural Philosophy and Astronomy from 1785 to 1786. In 1792 a reorganization of the medical school took place, and Bard was chosen Dean of the Faculty of Medicine.

Three later years he took David Hosack into partnership and in the spring of 1798

retired to his father's country place at Hyde Park in Dutchess County, New York. He took great interest in the improvement of agriculture and wrote a little treatise on sheep raising. In 1806, he became President of the newly organized Dutchess County Medical Society.



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When the College of Physicians and Surgeons, which had been established in 1807, was reorganized in 1811, Bard was appointed President and in November of that year delivered *A Discourse on the Importance of Medical Education*. In this important address he pointed out the necessity of a public hospital in connection with university teaching as beneficial to students and instructors alike. He also stressed the value of preliminary education as a preparation for medicine. At the Commencement in

1819, Bard reiterated his views in his now famous *Discourse on Medical Education*. Pointing out the importance of bedside teaching he said "the student must see, and hear, and feel for himself."

In 1807, Bard wrote the first systematic treatise on obstetrics to appear in America entitled *A Compendium of the Theory and*

Practice of Midwifery. This valuable work passed through five editions.

Bard was not only eminent as a physician and educator, but as a public-spirited citizen. He helped to found the first public library in New York and was one of the founders of the city dispensary. He died at Hyde Park in 1821, at the age of 79.

Hospitals Which Do and Do Not Fill Their Intern Quotas A Survey of Characteristics*

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Little is known about the early development of the institutional apprenticeships which began in this country some 160 years ago (1). Official recognition of the fifth year of medicine or the hospital internship as a part of the training of a physician occurred in 1904 when standards were established by the Council on Medical Education and Hospitals of the American Medical Association. In the first list of 508 hospitals approved for internship and published by the Council in 1914, 2,767 internships were listed as available for the 3,594 medical graduates for that year. Apparently, some 30 per cent of graduating students began practice without an internship. Facilities for intern training (4,727 internships) first exceeded the number of medical graduates (3,962) in 1926. In June, 1957, there were listed 11,804 approved intern positions available for the 6,923 medical graduates.

It would appear that the historical origin of the internship as an apprenticeship type of learning experience was basically the same as for the artisan guilds of old. By watching the doctors at work and assisting them in earning their livelihoods in their respective private practices, the student physicians had the opportunity to obtain practical experience in exchange for their services. The

general acceptance of this concept is suggested by the fact that 6,939 places of the 11,804 approved internship appointments in this country are offered by minor teaching and unaffiliated hospitals.

The lack of competition for internship appointments in these hospitals leads to the conclusion that students may not agree with the apprenticeship concept. For the 1956 National Intern Matching Program, there were 4.1 applications made for each of the 4,273 places in the major teaching hospitals, compared with 1.6 applications for each of the 6,604 places in the minor teaching and unaffiliated hospitals. One explanation given by many of the institutions for their failure to meet internship quotas has been that they were unable to meet the competition of rising intern stipends. Studies by Crosby and McJoynt (2) clearly demonstrated that only 8 per cent of intern applicants select the group of hospitals paying the largest stipends, as compared with 21 per cent selecting hospitals paying the lowest stipends.

Because it appears definite that monetary return does not significantly influence internship selection, it was decided to investigate other reasons for the frequency of application to major vs. minor or unaffiliated hospitals. Three general areas for study were selected: hospital facilities, composition of the staff, and the nature of the educational program. A two-page questionnaire was developed to obtain these data. Because all items covered appear in the tables which

* This survey was assisted by funds by the John and Mary R. Markle Foundation and the Commonwealth Fund.

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follow, the questionnaire itself is not included.

Hospitals participating in the National Intern Matching Program for the past 4 years were reviewed and classified into four groups: (a) University-affiliated (major teaching) hospitals which filled their intern quotas 100 per cent of the time for the 4-year period; (b) nonaffiliated or minor teaching voluntary hospitals which fulfilled their quotas 100 per cent of the time; (c) University hospitals which never received an intern through the matching program; (d) nonaffiliated hospitals which never received an intern through the matching program. No major teaching hospital ever com-

pletely failed to obtain an intern through the matching program. Only a very small number of nonaffiliated hospitals fulfilled their quotas for the 4-year period. Two groups were left for consideration, the hospitals which uniformly obtained their full complement of interns and those hospitals which never obtained an intern in the history of the matching program.

Of the 821 hospitals in the United States participating in the matching program in 1956, with the exception of Federal Hospitals controlled by various divisions of the Armed Forces which were excluded from this survey, only 34 institutions filled their internship quotas for each of the 4 years

TABLE 1
FACILITIES
General Characteristics

	100 per cent (n=30)	0 per cent (n=58)
Number of beds	525*	234*
Plant over 30 yr. old	50	36
Living quarters for married interns	23	29
Recreational facilities	63	49

TABLE 2

FACILITIES

Private-Charity Ratios

Type	100 per cent	0 per cent
90-100 per cent charity	47	6
66 per cent charity	7	0
50 per cent charity-private	14	6
66 per cent private	14	29
90-100 per cent private	18	59

TABLE 3

STAFF

Subject surveyed	100 per cent Group hospitals	0 per cent Group hospitals
Size of staff	223*	120*
Number board-certified	134*	44*
Educational comm. or director	49 per cent	52 per cent
Active research projects	None 7 Rare 17 Regular 76	41 24 32
Guest clinicians	Never 3 Rare 20 Regular 76	12 41 43

TABLE 4

CHARACTERISTICS OF HOSPITAL STAFF

		100 per cent Group hospitals	0 per cent Group hospitals
Per cent of University facilities	Less than $\frac{1}{2}$ $\frac{1}{2}$ -1	26 per cent 22	78 per cent 11
	More than $\frac{1}{2}$	52	11
Per cent full-time staff	Less than $\frac{1}{2}$ $\frac{1}{2}$ -1	92 4	96 4
	More than $\frac{1}{2}$	4	0

studied (100 per cent group). Ninety-nine hospitals never obtained an intern through the matching program (0 per cent group). The questionnaire was sent to each institution in the two categories. Eighty-nine per cent or 30 institutions in the 100 per cent group and 58 per cent or 58 institutions in the 0 per cent group returned the questionnaire. This report is an analysis of these data.

In the following tables the numbers shown are percentages of the institutions in the two groups, unless indicated by an asterisk. In the latter case, the figures are averages of actual numbers given. The percentages are based on 30 hospitals in the "100 per cent" and 58 hospitals in the

way to more personal and earlier contact of students with patients. The hospital clerkship now furnishes the medical student, in his third or fourth year, the close contact with patients and clinical instructors and responsibility for patient care which previously were obtained only in the internship.

This study has not concerned itself with the highly controversial question of the necessity for an internship in the light of the changing character of medical education. Likewise, no judgement has been made of the appropriateness of the number of approved internships and the effect this has upon the creation of a false impression of an intern shortage. Our data serve to highlight the fact that medical students ap-

TABLE 5
PROGRAM

Subject surveyed	100 per cent Group hospital	0 per cent Group hospital
Interns see all patients	89 per cent	88 per cent
Special teaching rounds	92	78
Interns on out-patient service	92	80
Interns on emergency-room duty	89	94
Nights off per week	3*	3*
Number of conferences-seminars per week:	14*	5*
Attendance required	54	98
Attendance optional	46	2
Average size of house staff per service	7*	6*
Average number of patients per service:		
Less than 20	9	31
20-29	32	20
30 or more	59	49
Hours per day on rounds:		
Less than 2	17	61
2-4	63	20
4 or more	7	9

* Actual figures.

"0 per cent" group—e.g., Table 1 shows that 50 per cent of the hospitals in the "100 per cent" group and 36 per cent of the hospitals in the "0 per cent" group are over 30 years old.

During the half century since the internship achieved official status, both medical education and practice have undergone profound changes. Didactic lectures in clinical medicine and presentations of patients solely in large amphitheater clinics have given

TABLE 6
ROTATION PLAN OF SERVICE
(Figures shown are average number of months)

Service	100 per cent Group hospital	0 per cent Group hospital
Medicine	4	4
Surgery	3	3
Surgery specialty	1	1
Pathology	1	1
Ob.-Gyn.	1	2
Pediatrics	1	1
Radiology	1	1
Other	2	1

parently look upon the internship as another year of education and not only an opportunity to apply their previously acquired knowledge. The implications of Table 7 are obvious and show the critical appraisal of educational opportunities made by intern applicants themselves based upon information which they have acquired as individuals. This information appears substantiated by our survey.

Table 8, which summarizes the significant differences between the two groups of hospitals surveyed, clearly indicates that the educational environment is the important determining factor in student selection. Although a hospital cannot make itself larger, older, or change its ratio of private to charity

patients, most of the other attributes of the "100 per cent group" of hospitals are attainable by a far greater number of institutions.

SUMMARY

Hospitals participating in the National Intern Matching Program for the years 1952-1956 were surveyed and divided into two groups. Data were obtained from 30 out of 34 hospitals which obtained 100 per cent of their intern quotas and 58 out of 99 hospitals never obtaining an intern through the program during the period under study. Questionnaire data concerning hospital facilities, medical school affiliations, research and teaching interests of the medical staff, and teaching programs within the

TABLE 7
GENERAL
Ranking of Hospitals* by Students

HOSPITAL GROUP	No. POSITIONS AVAILABLE	No. APPLICATIONS MADE	STUDENTS' CHOICE			X (does not want)
			1st	2d	3d or more	
"100%"	744	4612	910	925	2299	478
"0 %"	426	67	2†	4	50	11

* Hospitals which returned survey questionnaire.

† Students were rejected by hospital—thus not matched.

Source: Rankings submitted to National Intern Matching Program for 1957.

TABLE 8

	Significant factors common to the 100 per cent group of hospitals	Factors which did not appear to be significant
Facilities	Larger than the O group. Predominantly charity.	Living quarters. Recreational facilities. Age of buildings.
Staff	Larger per cent on university faculties. Larger proportion are board certified. Regular research conducted in hospital. Guest clinicians are regularly invited to participate in teaching.	Per cent of full-time staff. Per cent of staff in private practice. Presence of an educational committee or director.*
Program	Larger number of patients per service. House and attending staff make rounds together. More hours per day spent on teaching rounds. More seminars and conferences.	Whether interns see both private and charity patients. Whether there is or is not an out-patient service. Whether there is or is not emergency-room duty. Type of service rotation. Number of nights off per week.

* Because of the wording of the questionnaire, it was not possible to learn whether the presence of a full-time Director of Education was significant.

hospitals were tabulated. It was clear that educational opportunity was the determining reason for 4,612 applications for 744 intern positions in the 30 hospitals filling their intern quotas, as compared with 67 applications for 426 positions in 99 hospitals which never obtained an intern through the Matching Program.

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A Psychopharmacology Exercise for Medical Students*

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In the last few years the importance of a knowledge of psychopharmacology for the practice of medicine has increased very greatly. Therefore, a psychopharmacology experiment was included in the series of laboratory exercises, organized by the Department of Pharmacology, for second-year medical students.

The specific aims of the psychopharmacology exercise were:

1. To expose the students directly to evidence that behavior can be studied objectively and to show that, provided conditions are as carefully controlled as in physiology experiments, the results of experiments on behavior are as predictable and reproducible as those in physiology.

2. To demonstrate some clinically important features of two widely used drugs and to show that experimental animals can be used to as good an advantage in the study of behavioral effects of drugs as in the study of other types of drug effects.

During the presentation of psychopharmacology in the regular pharmacology lecture series, the importance of environmental influences in determining the behavioral effects of a drug was emphasized. Extreme examples were cited, such as experiments showing a several-fold change in the LD_{50} of amphetamine (1) depending on environmental circumstances. These were followed

by more precisely defined, though nonetheless dramatic, instances in which, depending on the characteristics of a single environmental variable, the same dose of the same drug in the same animal had widely different effects on the output of the same bit of behavior (2). Similar instances of common experience in human behavior were mentioned. These examples of environmental influences on drug effects clearly called for a short discussion in more general terms of environmental determinants of behavior *per se*. Most of this discussion was devoted to the free operant situation—i.e., one in which the frequency of emission of a continually repeatable bit of behavior ("response") is studied. In terms of frequency, objective and quantitative accounts of behavior can be given, and it has been shown that frequency is sensitively and reproducibly influenced by environmental variables (7). A study of frequency of response has also been shown to be a profitable approach to the analysis of the effects of psychopharmacological agents (see, e.g., 4, 6). Finally, much of what can be measured about behavior can be expressed as frequency, and knowledge of the determinants of frequency provides a considerable degree of both predictability of and control over behavior (5). Both in the lecture and later in the laboratory, every effort was made to dispel any preconceived ideas the students might have that psychopharmacology is necessarily less "scientific" than other branches of pharmacology. One important way in which this was done was to show that much of the apparent capriciousness of drug effects on

* The cost of the equipment for this exercise was defrayed by a grant from the National Institute of Mental Health, U.S.P.H.S. (MY-2140).

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behavior can be resolved and accounted for by more detailed study.

EXPERIMENTAL

Apparatus.—The basic apparatus was a fairly standard piece of equipment for use with pigeons and has been described in detail and illustrated elsewhere (5).¹ The experimental chamber was an ordinary picnic icebox, with the inside divided by a partition. A hinged piece of translucent plastic, the key, was mounted in the partition at a convenient height for the pigeon to peck. Pecking the key broke an electrical contact which permitted the objective recording of pecks. Small (6-W) electric bulbs were mounted behind the key so that the key could be transilluminated with either a red or blue light. Below the key was an opening in the partition through which an illuminated hopper of grain could be presented for 4 seconds. The apparatus was modified by replacing part of the roof of the icebox by a piece of "one-way" glass so that students could observe the birds. A fairly bright light (25-W) illuminated the pigeon compartment whenever the key light was on.

Preliminary training.—Pigeons already trained to peck the key were maintained in a steady state of partial food deprivation and were given preliminary training for the laboratory exercise under the following two conditions. When the red key light was on it remained on until the animal had pecked the key 33 times, at which time food was presented (fixed ratio) for 4 seconds. When the blue light came on it remained on for at least 5 minutes, and the first peck after 5 minutes had elapsed was followed by presentation of food (fixed interval). After each presentation of food the light on the key might be either red or blue. All animals were trained until they gave a stable and consistent performance under both red key light (fixed ratio) and blue key light (fixed interval) conditions. "Fixed ratio" and "fixed interval" contingencies were chosen, be-

cause they engender greatly contrasting patterns of response (high constant rate by fixed ratio vs. very much lower, but progressively increasing rate by fixed interval), which in turn show differential sensitivity to modification by drugs (2).

During the laboratory exercise all was as before, except that the red or the blue key light (and the bright white light in the pigeon compartment) could be turned on only by a separate remote control push-button operated by the students. Following presentation of food, all lights in the box were automatically extinguished, and remained so until the students pressed either the red or the blue light switch. This arrangement was chosen, rather than completely automatic programming, because it was deemed best to have the students themselves control the succeeding behavior of the animals according to which of the switches they pressed. Each peck was registered on a cumulative recorder, and, in addition, pecks in the presence of the blue light tripped a magnetic digital counter which was mounted on a small chassis with the switches. Eight pigeon chambers were available.

Experiment.—The students worked in groups of five. The experimental period was 3 hours. A general description of the experiment was in the Laboratory Manual handed out some weeks earlier. One-third of the class came on each of 3 days.

In the introductory remarks the students were advised to minimize noise and vibration in the laboratory (which was a single large room). They were also advised to press the red and blue light switches alternately during most of the experimental period. The following sequence was recommended: Red, Blue, R, B, R, B - injection of saline - R, B, R, B - injection of pentobarbital sodium - R, B, R, B, R, B, R, B, R, B, R, B, R, B - injection of methamphetamine hydrochloride - R, B, R, B. . . . The drugs were injected intramuscularly into the back of the thigh. Doses of the drugs were assigned to each group to insure that information suitable for estimation of a dose-effect

¹The apparatus is available commercially from Grass-Stadler Inc., West Concord, Mass.

curve would be obtained. When observations of methamphetamine had been completed, the students were encouraged, in collaboration with an instructor, to observe the effects of changes in the programming circuits. Five instructors completely familiar with the whole experimental arrangement were present throughout each laboratory session, and additional instructors were available to discuss the more purely pharmacological aspects. During the experiment the amount of illumination in the laboratory

The numbers of pecks made in the presence of the individual blue light periods were collected for summary in a dose-effect curve. The mean number of pecks in the last two intervals prior to injection of pentobarbital was taken as control, and the number of pecks in the second interval after injection of pentobarbital or methamphetamine were averaged for each dose level to give the points shown in Charts 1 and 2.

DISCUSSION

The great difference in the pecking performance according to whether the red or the blue light was present was unmistakably apparent to all groups, and most students were visibly impressed by the way in which the bird immediately started to peck the key

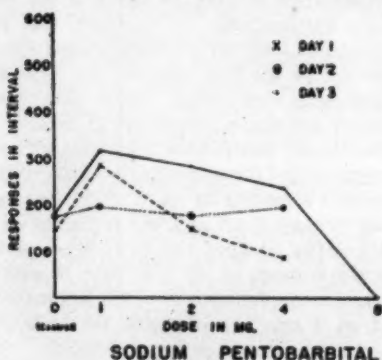


CHART 1.—Dose-effect curves for pentobarbital on number of responses made in an interval starting a constant time after injection. Each point is the average of two independent observations; the three lines show the results for each of the three days on which the class was conducted.

was reduced so that the difference on the two sides of the one-way glass was sufficient for the bird to be clearly observed. There was still quite adequate illumination in the laboratory for reading counters, observing the cumulative curve, and writing.

RESULTS

The first time the experiment was run, one pigeon showed considerable modification of the performance it had been giving under quieter circumstances. All the other animals on the first day, and all animals on the second and third days showed highly consistent "ratio" and "interval" performances in the presence of the red and blue lights, respectively, in excellent agreement with published accounts (3, 5).

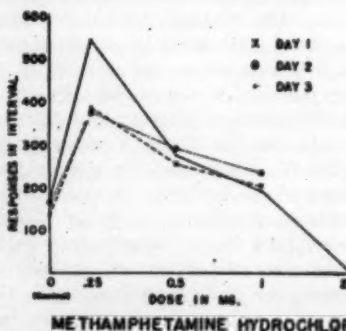


CHART 2.—Dose-effect curves for methamphetamine. Obtained as described for Chart 1.

as soon as the red light came on. Most groups, at one time or another, discussed the progressively increasing rate of pecking in the presence of constant environmental stimuli during the 5-minute blue light period. Otherwise, as might be expected, discussions within the group and with instructors ranged far and wide.

At a conference at the conclusion of the period the portions of the data of Charts 1 and 2 that had been obtained on that experimental day were presented as a dose-effect curve on the blackboard. (Each point on the curves is the mean of only two observations.) Although there was some variation

from day to day, one of the effects of pentobarbital on the first and third days was to cause an increased output of effective behavior. This sort of result enables the student to obtain some perspective on the rather dated controversy as to whether drugs such as the clinically used barbiturates and alcohol are "purely depressant" in their action. The student is made more aware of the importance of a careful appraisal of circumstances before prescribing a behavior-affecting drug; for example, attempts at sedation by exhibition of barbiturates under certain circumstances may lead to the opposite consequences.

The effects of methamphetamine were even more consistent from day to day. They show a characteristic feature of psychomotor stimulants: that the maximum stimulation of "effective" behavior is obtained with doses which are only a small fraction of the LD₅₀ (here about 2-3 per cent) and that increase in dosage above this level leads only to a decrease in the output of behavior. The findings raise a question as to the meaning(s) of the term "potency" of a drug. This is a matter of considerable clinical interest, which students seem not to get clear from textbooks.

Only one class of medical students has been exposed to this exercise to date, but our experience has been sufficient to reassure us on some aspects where the possibility of difficulties had been foreseen. For example, since the pigeons were protected only by far from completely soundproofed boxes, it was feared that the impact of 40 medical students in one room would seriously disrupt their behavior. However, the birds kept faith.

On the other hand, the reproducibility of the effects of pentobarbital left something to be desired. It is believed that this is in part due to the steepness of the dose-effect curve. Perhaps pentobarbital should be replaced by a drug with a less steep dose-effect curve, such as chlorpromazine. On the other hand, the demonstration that pentobarbital can cause an increase in behavior is considered a significant part of the teaching exercise.

Finally, an instructive aspect of the experiment—the differential effects of drugs on "ratio" and "interval" behavior (2, 3)—was not effectively brought out in this experiment. The counters gave objective information on numbers of pecks in the intervals. Most groups of students endeavored to measure the time required to complete a ratio with a wrist watch. Since the "ratio" usually took only of the order of 10" this method is not sufficiently accurate to give useful information. Fast running elapsed time meters are required.

SUMMARY

A psychopharmacology experiment on pigeons in a free operant situation is described, which is suitable for inclusion in a regular series of student laboratory exercises in pharmacology. Some of the results obtained by the students are presented; they are in agreement with published data. Some general and clinical implications are pointed out.

ACKNOWLEDGMENTS

We would like to thank Drs. J. L. Falk and L. R. Gollub and Mr. S. M. Autor for their help in instruction in this exercise and Miss Barbara Keady whose careful work before and during the exercise made it run smoothly.

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Concerning the History of Medicine

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If the schools and central organisms responsible for medical education . . . cannot decide to put the teaching of medical history upon a firm basis themselves, then they, in their lack, will have strengthened considerably a tendency of which they complain so much—the transformation of the doctor into a diagnostic and therapeutic technician.—E. H. ACKERKNECHT.

So much has been written on the value of a knowledge of medical history—see, for example, the excellent papers of Cordell (3) and Rosen (5), and the recent monograph "On the Utility of Medical History" (4)—that one wonders if it is now necessary to apologize for or to justify this subject. Must the medical historian forever justify his existence in terms of the "utility" of his subject? Osler, in his many delightful writings, has indicated the need for a study of medical history by the physician—not only for its value as a thing-in-itself but also for its humanistic and intellectual benefit; and it is, I believe, a sign of weakness rather than of strength for the medical historian to keep intoning these truisms. Medical history is now an established and important academic discipline, but there are still physicians who are unaware of this fact. Indeed, if we are uncompromisingly honest, doctors can be divided into two groups:

1. Civilized, enlightened M.D.'s¹—those who would agree that medical history is a valuable discipline;
2. Physician-philistines¹—those who consider the subject a waste of time.

Most doctors, I suspect, belong to the

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¹ If the reader suspects that these are value judgments, he is perfectly correct. They are.

first group. As regards the second group, not much can be done; and mere repetition of the usual *apologia* is likely to irritate rather than to convince. Traditionally, it is a slow and difficult task to convert the savage, and one can merely hope that an occasional physician-philistine will read the words of a great missionary such as Osler and that a modicum of historical light will then illumine his technological darkness; this light, however, is far more likely to come from within—if it comes at all—than without.

Prevention then, rather than cure, of the physician-philistine should be an important concern of the medical historian, and ideally prevention should start in our medical schools and perhaps even earlier. The purpose of this paper is to suggest possible ways of insuring that, in the future, the ratio of civilized, enlightened M.D.'s to physician-philistines (the CEMD/P-P ratio, if you like) is kept at its present high level or rendered even higher.

What are the best ways of exposing students to infection with the medical history virus? Obviously, two things are important—the right books and the right teachers; and for some students the books alone will do the trick.

THE HISTORICAL LIBRARY

Many medical schools—either by accident or design, or maybe both—are happily endowed with good historical collections. However, others have little or nothing in the way of medical historical items, and one must conclude that their students are being intellectually short-changed. One can-

not and does not expect every school to have first editions of the *Fabrica* or *De Motu Cordis*, but the provision of at least the standard histories of medicine and a representative group of the many available reprints, translations, and facsimiles of the major medical classics is surely not asking too much of the library's budget. Once the library is functioning historically, so to speak, gifts varying from single volumes to entire collections should, in due course, come from interested alumni, faculty, and others. The provision or acquisition of regular funds for additions to the historical collection is highly desirable; again, if the school itself cannot or will not assist, appeals for alumni or other support may be successful.

What books should be bought is always a difficult problem—much depends, obviously, on what funds are available and what the present library holdings are. If the historical collection is just starting, it would be silly to splurge the entire amount available on a single rare volume; for 5,000 or 6,000 dollars a first edition of *De Motu Cordis* may be obtainable, but for the same amount of money the library could get a wide variety of facsimiles of the great medical classics, and dozens of original editions of later less sought, but also important, works. Once the collection has grown comfortably and has most of the important works in one form or another, concentration on certain specific periods, countries, subjects, or persons is a sensible line to follow. In this connection, if there are active full- or part-time medical historians or other serious scholars in the school, acquisitions in the areas of their special interests are clearly desirable. In many instances, printed books will suffice; in others, manuscript materials—e.g., letters, diaries, notebooks—may have to be hunted down and, if possible, purchased. Nothing, to my mind, is more exciting than working with unpublished manuscript material, and for getting students really interested in medical history it is hard to beat. Such material, however, is

exceedingly difficult to find; it rarely comes on the market, and when it does the price is usually high. However, even with a limited budget it is amazing how useful manuscript material can be found by careful scrutiny of the catalogues of the various booksellers and, better, by rummaging around in the shops themselves. Further, there is always the simple device of telling as many people as possible—faculty, students, alumni, and “friends of the library”—of one’s interest in acquiring old notebooks, letters, and diaries; some families are only too glad to be rid of papers that may date back many generations. There is a delightful element of chance in all this—one never knows what each new batch of papers may contain. All of us, of course, have special interests, but often we can pursue our subject just so far and no further; we get all we can gather together concerning our pet project and hope vaguely that some new material will turn up. It is in such historical doldrums that a goodly stock of unpublished (most of it, alas, perhaps unpublishable) manuscript material can keep the historian and his students usefully employed; and it is possible that they will become excited about, or irritated into, a completely new line of research.

Finally, when the historical library becomes quite large, separate housing of it should be considered. Ideally, this should be close to the main library and not in an obscure part of the campus seldom visited by students. At the University of Kansas School of Medicine, for example, a superbly furnished room (see illustration) is available. This room opens into the lobby of the main library building, has display cabinets for special exhibits (see illustration) on each side of the entrance, and is adjacent to a vault in which the most valuable items are stored. On the floor immediately above are overflow stacks for the historical collection; a small museum; a lecture theatre; and the offices of the Department of the History of Medicine.



HISTORY OF MEDICINE ROOM, CLENDENING MEDICAL LIBRARY
UNIVERSITY OF KANSAS SCHOOL OF MEDICINE



DISPLAY CASES AT ENTRANCE OF HISTORY OF MEDICINE ROOM, UNIVERSITY OF KANSAS SCHOOL
OF MEDICINE, SHOWING SOME OF THE BOOKS EXHIBITED DURING THE
TERCENTENARY (1957) OF THE DEATH OF WILLIAM HARVEY

THE TEACHING AND THE TAUGHT

As regards the teaching of medical history, I am strongly in favor of the method used by the immortal Wackford Squeers: "C-l-e-a-n, clean, verb active, to make bright, to scour. W-i-n, win, d-e-r, der, winder, a casement. When the boy knows this out of the book, he goes and does it." Obviously, however, all students cannot be expected to engage in active historical research, but we should strive to get as many as possible to do so. There are various ways of getting the average student to indulge in historical research; at the University of Kansas School of Medicine, for example, a written paper on some medical topic of their own choosing is required of sophomores and seniors, and there are always several students who choose a historical problem. At Yale's School of Medicine a thesis is required of each M.D. candidate, and it is by no means unusual for theses to be written on some aspect of medical history. Essay prizes in the history of medicine should be offered in every school; it is remarkable how many entries such awards will inspire, particularly if the prizes are good ones! There are also, of course, a few national student awards available, e.g., the Osler Medal of the American Association for the History of Medicine, and the Schuman Prize (\$250) administered by the *Journal of the History of Medicine*. Student research fellowships for long- or short-term projects in medical history are of prime importance, and many more schools should offer them. Student and faculty clubs and societies are also valuable for initiating and maintaining interest in medical history.

Lectures are important, but to my mind there is no more valuable and intellectually stimulating experience for the student than the actual researching and writing up of some problem in medical history. The use of primary rather than secondary source material should be urged or even insisted upon, and the student should be encouraged to publish his findings in learned journals.

On the teaching of medical history in general, much, of course, has been written

—see, for example, the papers by Sigerist (7), Rosen (6), and Ackerknecht (1)—but the full-time academic teacher, although desirable, is still a *rara avis* in this country. In the British Isles the situation is even worse—the species is now extinct (2). Fortunately, in both countries, there are many enthusiastic and talented part-time teachers. There is a tendency of the professional medical historian to criticize the teaching efforts of the keen amateur; this is unfortunate, if only on the grounds that at the very worst half a historian is better than none at all; and in the matter of good public relations, the amateur historian (amateur only in the sense of not earning his bread and butter from teaching history) is of great value—if there is a great deal of faculty participation and interest in the teaching of medical history, far more students are likely to be impressed than would be by a solo historical turn. At the University of Kansas School of Medicine there is a remarkable degree of faculty participation in and enthusiasm for the teaching of medical history, and this spirit readily communicates itself, with beneficial results, to the students.

Opinions vary enormously concerning the number of lectures which should be given and what they should deal with. The University of Kansas School of Medicine gives a 10-hour survey course in the sophomore year, a 10-hour course on the histories of the individual specialties in the junior year, and a 10-hour "mixed bag" course of historical lectures in the senior year. Ideally, there should be no classes scheduled immediately after the history hour so that the students can have ample time to look at the various books displayed or referred to during the lecture.

Finally, one can, I believe, make out a good case for teaching medical history to college undergraduates. The premedical student who is interested in history in general, would, one imagines, be particularly interested in learning something of the background of his chosen profession; and this knowledge would be of some use later on

when he enters medical school. However, it would be a mistake to restrict such a course to the premedical student; it is possible that other students would be interested in it. Early in 1959 the University of Kansas will offer a one-semester upper-level college course in medical history; this course will be available for premedical students, students majoring in the newly offered field of the history and philosophy of science, and, indeed, for any college or graduate students who are interested and who have fulfilled the modest prerequisites of a few hours of college history and biology.

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Personality Factors among Medical Students as Related to Their Predisposition To View the Patient as a "Whole Man"

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This paper is a report on the first phase of an exploratory study designed ultimately to elucidate the relationship between selected personality characteristics of medical students and the types of relationships they sustain with patients. The research was carried out with a sample of 118 freshman students in the Jefferson Medical College (Philadelphia). To fulfill the long-range goals of this study will require research with these students during their 4 years in medical school. The immediate problem is concerned with the relationship between personality characteristics among the students and their receptivity to the idea that the patient must be viewed, not only as an aggregate of pathological organs, but as a complex social as well as biological organism. This "whole man" approach implies, furthermore, that the physician should be appreciative and sensitive to the effects on the disease processes of the patient's behavior in his family and in the larger community setting.

Increasing attention is being devoted in the medical school curriculum to the inculcation of this approach to patients. Recent growth of knowledge in psychosomatic medicine and the behavioral sciences underlines the importance of these efforts. In addition, the urbanization of our country and the success of laboratory and specialized medicine have affected the nature of the doctor-patient relationship in such a way that it be-

hooves the medical school to re-emphasize the need to view the patient in all his social-psychological complexity.

Those of us who are involved in the attempt to teach this point of view are well aware of the resistances often encountered among medical students (3). However, our awareness of this situation is not matched by a full understanding of the extent of the problem or the reasons underlying it. It seems like a fair assumption that such resistances are closely associated with resistances to the point of view of dynamic psychiatry. In a recent study by Robert Merton *et al.* (4) it was found that psychiatrists were ranked lowest in prestige by medical students at various levels of their training and in a number of different medical schools. What is of primary concern here is not the attitude toward psychiatrists as such, but to the point of view espoused by psychiatry and the implications of this negative attitude for the manner in which patients are interviewed and treated. Merton and his associates make no attempt to delve into the reasons underlying this attitude, nor to explore its implications for the student (physician)-patient relationship. In this study we shall try to learn whether medical students having specific attitudes toward psychiatrists can also be characterized by particular personality configurations. Furthermore, if such relationships do exist, we will then attempt to explore what other concepts of the roles of the medical student and physician are associated with these personality traits.

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METHODS

For the purposes of this study, a questionnaire was administered to 118 freshman medical students 3 months after the beginning of the semester. Before this time they were given a careful explanation of the general purposes of this research and were assured that their responses would be kept anonymous and that their cooperation was completely voluntary. There were no refusals to participate in the study.

To separate the students into personality types, they were asked to respond to a series of 22 questions designed to yield information regarding the degree of "authoritarianism" in their personality make-up. These questions were taken from the F-scale used in "The Authoritarian Personality" (1). Careful clinical studies of Adorno and his co-workers of high and low scorers on the F-scale indicated the following:

1. Although their level of aggression was similar, the hostile feelings of the authoritarian students (i.e., high scorers) was diffuse, while those of the low scorers tended to be more sharply focused on specific objects. Where aggression was focused among the former, it was often directed toward minority groups in our society.

2. Authoritarian subjects tended to idealize authority figures. Although they were overtly more submissive than non-authoritarians, they usually harbored repressed feelings of hostility toward those in authority.

3. Authoritarian individuals tended to have an idealized self-image and were less able than non-authoritarians to take a psychiatrically oriented view of themselves and other people.

4. Authoritarian subjects tended to be rather moralistic in their judgments of themselves and others. As a result, they were more inclined to see the black and white of human behavior, rather than the subtle greys.

5. Authoritarian subjects tended to view human relationships in terms of a hierarchical model and were more conscious of status

differences than were non-authoritarian subjects. The latter were more inclined to think in equalitarian terms.

After the responses to the F-scale were scored, they were placed in rank order, and the sample was divided into quartiles. Those in the upper quartile (high scorers) were regarded as the "authoritarian group," those in the second and third quartiles as the "medium group," and those in the fourth quartile (low scorers) as the "non-authoritarian group."¹ This trichotomous division was maintained for purposes of tabulating and analyzing the remainder of the responses to the questionnaire.

THE FINDINGS

Personality characteristics derived from the Edwards personal preference schedule.²

Scores were obtained on the Edwards Personal Preference Schedule for students in each of the three groups, for fifteen personality characteristics. Table 1 lists each of these traits and their appropriate definitions, indicates the average scores for each of the three groups, and gives the statistical significance of the differences between (the averages of) the non-authoritarian and the authoritarian groups.^{3,4} It should be noted that in four out of the five characteristics showing a significant difference between the averages for the non-authoritarian and the

¹Our total sample of 118 was divided among the various groups as follows: 30 students in the non-authoritarian group, 58 students in the medium group, and 30 students in the authoritarian group.

²The Edwards Personal Preference Schedule was administered to all freshman medical students by the Association of American Medical Colleges. The Association was kind enough to make available to me the results of this psychological test. It should be noted that, although the scores of the students in the three groups were given to me, none of these scores was identified with particular individuals. Thus, the Association maintained the anonymity of their data.

³The "t" test was used to compute the levels of significance of the differences between the group averages. A level of significance greater than 0.05 is considered as being "not significant" (N.S.).

⁴The sample used to establish norms for this test consisted of 749 college women and 760 college men. These students were enrolled in day or evening liberal arts classes at various universities and colleges. Sixty to 70 per cent of the individuals in the normative sample have scores falling within the range established by the mean of 50 plus and minus one standard deviation, i.e., between 40 and 60.

TABLE 1
GROUP SCORES FOR PERSONALITY CHARACTERISTICS AS INDICATED BY THE
EDWARDS PERSONAL PREFERENCE SCHEDULE

Characteristic	Definition of characteristic	Group averages (N-A, M, A)	Significance of difference be- tween averages of N-A & A groups
Achievement	To strive to do one's best; need to outdo others in accomplishments.	N-A 55.75 M 51.28 A 51.42	0.05
Deference	To accept leadership from others, to follow instructions and to do what is expected, to let others make decisions	N-A 49.89 M 53.90 A 50.19	N.S.
Order	Need to have things organized and orderly, to maintain definite schedules, need to have things arranged smoothly without change	N-A 47.92 M 53.35 A 55.61	0.01
Exhibition	Desire to be the center of attention, to talk about personal achievements, etc.	N-A 48.10 M 48.11 A 50.38	N.S.
Autonomy	To feel free to do what one wants, to be independent of others in making decisions—to do things that are unconventional	N-A 48.03 M 44.47 A 44.92	N.S.
Affiliation	Need to participate in friendly groups, to do things with friends rather than alone	N-A 48.67 M 48.84 A 47.84	N.S.
Intracception to	To analyze one's motives and feelings, to understand how others feel about problems, to analyze motives of other to put one's self in another's place.	N-A 54.39 M 52.13 A 47.80	0.01
Succorance	To have others provide help when in trouble, to seek encouragement from others	N-A 47.27 M 48.45 A 50.76	N.S.
Dominance	To persuade and influence others to do what one wants, to make decisions for a group	N-A 47.92 M 48.43 A 48.84	N.S.
Abasement	To feel better when giving in and avoiding a fight than when having own way	N-A 48.0 M 48.0 A 49.50	N.S.
Nurturance	Need to show a great deal of affection and sympathy with others who are hurt or sick, to have others confide in one about personal problems	N-A 56.25 M 51.66 A 50.65	0.02
Change	Desire to experiment and try new things, desire to experience novelty and change in daily routine.	N-A 46.64 M 46.22 A 44.11	N.S.
Endurance	Need to keep at a job until it is finished, to complete any job undertaken, to stick at a problem even though it may seem as if no progress is being made	N-A 54.92 M 57.80 A 57.19	N.S.
Heterosexuality	Need to engage in social activities with opposite sex, desire to be regarded as physically attractive by opposite sex	N-A 48.85 M 48.90 A 47.76	N.S.
Aggression	To blame others when things go wrong, to attack contrary points of view.	N-A 46.32 M 47.60 A 52.76	0.01

authoritarian groups, the medium group average occupied an intermediate position. Furthermore, the scores on these four characteristics—order, intraception, nurturance, and aggression—are very much in accord with what one would predict from a knowledge of the dynamics of the authoritarian personality. The authoritarian personality has a high need for order and definite structure in his human relationships and activities. He is much more comfortable when dealing with "hard facts" than with speculative ideas or intuition. In regard to the different nurturance levels of the two groups, many investigators have corroborated this

tions designed to tap "free floating" and diffuse aggression.⁵

Background and social participation.—Before discussing differences in the students' attitudes toward psychiatry and their perception of the physician-patient relationship, it might be well to discuss briefly a few aspects of their general background and social participation. There were no differences in the age or marital status of the students in the three groups. However, on all three criteria of class background (father's occupation, father's education, and father's income) the authoritarian group responses indicated affiliation with a higher socio-

TABLE 2
ADMIRATION FOR SEVEN TYPES OF MEDICAL SPECIALISTS AMONG
FIRST-YEAR MEDICAL STUDENTS*

Non-authoritarian group	Medium group	Authoritarian group	All groups
Surgeon	G. P.	Surgeon	Surgeon
G. P.	Surgeon	G. P.	G. P.
Psychiatrist	Professor in medical school	Internist	Professor in medical school
Professor in medical school	Obstetrician	Professor in medical school	Internist
Pediatrician	Internist	Obstetrician	Obstetrician
Internist	Psychiatrist	Pediatrician	Pediatrician
Obstetrician	Pediatrician	Psychiatrist	Psychiatrist

* Specialists are ranked according to the degree of admiration assigned to them by the students—most admired first.

finding in their own research. George Stern *et al.*, in a recent study of students occupying different positions on the "authoritarianism" continuum, noted that the authoritarian personality tended to have little emotional involvement in personal relationships (5). A. H. Maslow found that this type of individual had a strong drive for power over other people and identified kindness, sympathy, and generosity with "weakness" (2). The differences noted in the degree of "intraception" between the two groups correspond to the findings of Adorno *et al.*, that authoritarian subjects tended to be moralistic in their judgments of themselves and others and were less able than others to take a psychiatrically oriented view of people. Finally, the significantly higher level of aggression among the authoritarian students is what we would expect from a series of ques-

economic class than either the medium or non-authoritarian group. The medium group occupied an intermediate position in regard to father's education and father's occupation. Although differences between the non-authoritarian and authoritarian groups were consistent on all criteria, they were not statistically significant (at the .05 level of probability). It is interesting to note that 46 per cent of the fathers of the students in the non-authoritarian group did not graduate from high school. The corresponding figures for the medium and the authoritarian groups were 36 and 17 per cent, respectively.

Although we were able to find little relationship between class background and authoritarianism, an attempt was made to

* See point 1 in our previous discussion of the authoritarian personality.

explore the relationship between this personality characteristic and subjective feelings of class mobility. This was done by asking each respondent to check (on a list of socio-economic classes) the class to which he felt his father belonged, to which he would belong, and to which he hoped his children would belong. The results indicate that there are statistically significant differences (at the .01 level of probability) between the groups. Non-authoritarian students had the greatest feelings of upward class mobility, while those in the authoritarian group had the lowest.⁴ This finding may be related to the personality variable of "achievement" discussed previously.

All the students were asked to state the number of courses they had taken in sociology, anthropology, or psychology, prior to entering medical school. It was felt that the number of such courses would be an indicator of their interest in the social sciences and psychology. The responses showed quite clearly that there was an inverse relationship between the degree of authoritarianism and the number of such courses they had been exposed to. The higher the authoritarian component in the group, the fewer the number of social science and psychology courses. The difference between the average number of courses for students in the non-authoritarian group (3.9) and in the authoritarian group (2.0) was statistically significant (at the .01 level—"t" test of significance). It is probable that, even during their college careers, students in these groups differed in their level of interest in social and psychological problems.

The response to questions related to social participation and extra-curricular activities showed significant differences in only two areas. It was found that church attendance varied directly with the degree of authoritarianism. Students in the authori-

tarian group are much more active churchgoers than those in either of the other groups. The per cent of students attending religious services at least once per week was 59 per cent in the authoritarian group, 35 per cent in the medium group, and 16 per cent in the non-authoritarian group. These differences were significant at less than the .01 level of probability.⁷ The reading habits of the three groups also show differences, some of which are quite significant. In regard to the number of subscriptions to non-medical periodicals, there were only slight differences. Sixty-three per cent of the non-authoritarian group, 62 per cent of the medium group, and 60 per cent of the authoritarian group maintained current subscriptions to such publications. However, very apparent differences emerged in the analysis of a question asking the students to state the number of non-professional books they had read during the current semester. Seventy-seven per cent of the authoritarian students reported that they read no non-professional books, while only 57 per cent of the medium and 33 per cent of the non-authoritarian students fell into this category (significant at the .01 level). This indication of a less restricted range of reading interests among non-authoritarian students is supported by the previous finding that they elected to take more undergraduate courses in psychology and the social sciences than the authoritarians.

Attitudes toward psychiatrists.—It was noted previously, in research carried out by Merton *et al.* (4), that medical students in all 4 years of their professional studies ranked "psychiatrists" as having the lowest professional prestige among a group of seven different types of medical specialists. The students in our sample were presented with this same list of medical specialists and asked to rank them according to the amount of professional admiration they had for each. Table 2 gives the response of the students in the three groups. In all cases, the surgeon

⁴The import of this finding is not clear. It is possible that the somewhat lower class status of the non-authoritarian students may be the factor mainly responsible for their feelings of upward mobility. Unfortunately, the limited number of students in the sample prevents us from holding "class origin" constant and then seeing whether the relationship between "non-authoritarianism" and a "sense of upward mobility" still persists.

⁷The study by Adorno *et al.* (1) indicated that authoritarianism was related to attitudes of outgroup prejudice, conventional and rigid moral codes and religiosity.

and the general practitioner ranked either first or second in prestige. Psychiatrists are ranked lowest in professional admiration for all groups taken together. This specialty also shows the greatest variation in the ranks assigned to it by the three groups. It appears that the degree of admiration felt for the psychiatrist varies inversely with the degree of authoritarianism. The non-authoritarian students give the psychiatrist a rank of three, the medium students a rank of six, and those in the authoritarian group a rank of seven. This contrast in attitudes toward the psychiatrist by students in the three groups is borne out by tabulating the number of times each specialist was named as the least admired of the group. This dubious distinction was given to the psychiatrist by 53 per cent of the authoritarian group, 16 per cent of the medium group, and 3 per cent of the non-authoritarian group.⁸

An examination of the explanations given by students for ranking psychiatrists lowest on the admiration scale indicated three outstanding reasons. The most prevalent reason given was their own lack of knowledge of psychiatry. Second in importance was the fact that the students were negatively im-

pressed by the relative lack of "precision" and "concreteness" that characterizes psychiatry. There were complaints of too much speculation, vagueness, and unfounded generalization in the field. Finally, there were some students (mainly in the authoritarian group) who felt certain aspects of psychiatry (i.e., concern with sex and lack of a clear-cut system of ethics) conflicted with their religious convictions. The following are a few statements by students in the authoritarian group explaining their feelings about psychiatry:

Psychiatrists, to me, would be the least admirable of the lot. I dislike dealing with something so intangible as the mind. It is such a new field that no definite remedies can be prescribed for an individual.

Psychiatry is a B.S.er's paradise, and, aside from organic conditions coped with by surgeons and neurologists, the field is full of couch doctors fleeing the public.

Psychiatrist—he is more removed from the field of reality than any other type of medical man—who is concerned with the body.

The analysis of the attitudes toward the psychiatrist suggests the possibility that the authoritarian students (as compared with the non-authoritarians) have a high need for dealing with a "concrete" phenomenon that lends itself to precise determination. They appear to feel uncomfortable in areas that are not precisely defined and delimited and that require some speculation. It is also possible that some of the negative attitudes toward psychiatry arise as a defense against introspection on the part of the authoritarian personality.

Attitudes concerning the physician-patient relationship.—At one point in the questionnaire the students were asked to respond to a series of statements designed to elicit their evaluation of aspects of the physician-patient relationship. The statements are as follows:

1. Knowing how to deal with people's emotional problems is just as important for the clinician as a knowledge of the other aspects of medicine.

⁸ An event occurred during the middle of the semester which allowed us to test further the hypothesis that the students who rank high on authoritarianism hold the least favorable impressions toward psychiatry. It was announced by one of the professors of psychiatry that psychiatric fellowships would be available for medical students during the summer to work and receive instruction in a state mental hospital. These fellowships carried with them a rather attractive monetary compensation and an opportunity to learn about this phase of medicine. All students in the freshman class who were interested in this opportunity were invited to submit their names for consideration. It was hypothesized that fewer students with high authoritarian scores would apply for these fellowships than would those with low scores. For purposes of analyzing these results, the entire class (167) students was scored on authoritarianism and divided into a non-authoritarian group, a medium group, and an authoritarian group. The table below shows the number of each group applying for these fellowships. The differences between the groups are significant at the .01 level (chi-square test).

	Non-authoritarian group		Medium group		Authoritarian group		Total	
	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent
Applied for fellowship	17	38	16	18	4	9	37	22
Did not apply for fellowship	28	62	71	82	41	91	140	78
Total	45	100	87	100	45	100	167	100

2. Most general practitioners need more knowledge of psychology and the social sciences in order to deal competently with the various problems that arise in their practice.

3. It is part of a doctor's responsibility to be actively concerned with the political and social issues related to medicine (i.e., health insurance, legislative matters bearing on health conditions, etc.).

4. In all cases involving physical complaints, the doctor should try to understand the emotional problems of the patient.

difference between the average scores of the non-authoritarian group (9.4) and the authoritarian group (5.8) was statistically significant at the .001 level of probability. It is quite clear that authoritarianism varies inversely with "person-orientation," as defined by the four statements above. This is in line with our expectations derived from knowledge of the characteristics of the authoritarian personality and also corresponds with the attitudes held by the three groups toward psychiatry.

To learn more about the relative values

TABLE 3
"PERSON-ORIENTATION" IN PHYSICIAN'S ROLE

Group	Possible score	Actual score	Average score
Non-authoritarian	+360	+282	9.4
Medium	+696	+450	7.7
Authoritarian	+360	+174	5.8

TABLE 4
RELATIVE IMPORTANCE OF ATTRIBUTES OF A "GOOD DOCTOR"

ATTRIBUTE	RANK ACCORDING TO ATTRIBUTED IMPORTANCE*			
	Non-auth. group	Medium group	Auth. group	All groups
Ability to understand and relate to people	2	4	4	3
Technical skills and knowledge of medicine	1	1	1	1
General intelligence (also includes "common sense," broadmindedness, etc.)	3	5	5	5
Strong sense of moral and ethical values	6	2	2	2
Desire to help people (i.e., love, sympathy, compassion, etc.)	5	3	3	4
Other personality characteristics (i.e., determination, self-discipline, calmness)	4	6	6	6

* Attribute ranked #1 is considered to be most important, while #6 is the least.

These statements were scattered among others and not presented serially. Respondents were asked to express their agreement or disagreement with each statement by writing in the appropriate score.⁹ It was hypothesized that students in the authoritarian group would react more negatively to these statements than those of either of the other groups—the assumption being that authoritarian personalities would be less "person-oriented" than the others. Table 3 indicates the scores of the three groups on all the above questions taken together. The

that students assign to aspects of the physician's role, they were asked to list "what you think are the most important attributes, skills, and values that a good doctor should have." The respondents were permitted to list as many or as few factors as they wished. The answers were tabulated by selecting the first two attributes mentioned and giving the first a score of two and the second a score of one. Table 4 gives a list of the six most frequently selected attributes of the physician's role and the relative scores they were given by the individual groups. The rankings of the various attributes of the "good doctor" by the three groups show some interesting differences. In all groups

⁹ The possible scores were as follows: -3 (disagree strongly); -2 (disagree moderately); -1 (disagree slightly); +1 (agree slightly); +2 (agree moderately); +3 (agree strongly).

"technical skills and knowledge of medicine" was chosen as the most important attribute. However, the second choice of the medium and authoritarian groups was "moral and ethical values," while students in the non-authoritarian groups selected the "ability to understand and relate to people."¹⁰ The latter characteristic was ranked only fourth by the medium and authoritarian groups. Although these differences are quite apparent, their significance is not so readily understandable. It is possible that, as the degree of authoritarianism increases, there is more of a tendency for the student to regard the physician as a moral and spiritual guide of his patients. On the other hand, those who score low on authoritarianism may be more prone to think of the doctor-patient relationship itself as a therapeutic instrument that serves to either facilitate or hinder treatment of the specific medical problem. This interpretation may help us to understand the reason why the authoritarian group (as contrasted with the non-authoritarian) consider a "desire to help people" as being more important than the "ability to understand and relate to patients."¹¹ This interpretation is probably also related to the fact that the degree of authoritarianism varies directly with the degree of church attendance.

CONCLUSIONS

The range and diversity of the individual attitudes discussed in this paper are familiar to those dealing with medical students. The importance of the findings, however, consists in the fact that they point to the existence of a *syndrome* of related attitudes, values, and personality factors. For example, it is generally known that there are resistances among students to the point of view of dynamic psychiatry. However, this

fact takes on crucial importance when we realize that this may also be related to different modes of handling the doctor-patient relationship in all types of clinical practice. Our research indicates that a negative feeling toward psychiatry is usually far from being an isolated attitude toward this specialty. On the contrary, it is based on rather deep-seated and pervasive personality characteristics and underlying sentiments. Thus, the individual who has strong resistances toward psychiatry will also tend to have certain attitudes toward patients' problems and may even have characteristic ways of relating to his patients. If this is so, then it is clear that all types of practice will be affected.

In view of the pervasive negative attitude toward the "psychiatric approach" and some insight into the factors associated with this attitude, it behooves medical educators to re-examine the medical school curriculum. Again, what is emphasized here concerns not only the teaching of psychiatry, but all clinical instruction. To keep before the students the importance of understanding the psycho-social functioning of patients, two suggestions are offered. Increased course offerings in dynamic psychiatry and the related behavioral sciences should be available. Second, in all clinical teaching a conscious attempt should be made to relate symptoms to the wider social context of the patient's life. It seems reasonable to assume that at least some resistance to psychiatry can be reduced if it is placed in an active and continuous relationship with the other clinical disciplines.

As yet, we know relatively little about the full extent of the attitudinal variations among students differing on the authoritarianism characteristic. For example, to what extent is the authoritarian student unable to tolerate cultural differences among the patients he deals with in the clinic? To what extent does his "moralism" and religiosity render him less able to accept sexual and other forms of social deviance in patients. In what other ways is this characteristic

¹⁰ Note differences between these groups in "nurturance" as gauged by the Edwards Personal Preference Schedule.

¹¹ It is implied that the concept of helping people in the two groups differs in kind rather than degree. That of the authoritarian students may be more impersonal (e.g., doing things *to* or *for* people) than that of the non-authoritarian (e.g., doing things *with* or "through" people).

related to modes of conducting the doctor-patient relationship? It is hoped that future research with these students will help to clarify some of these questions.

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MEDICAL EDUCATION FORUM

Editorials

MORE RESEARCH MEANS MORE PHYSICIANS

The need for more physicians has been widely discussed in recent months. Generally, the emphasis has been placed on physician-population ratios and the demands for adequate medical coverage. However, the fact that the need for more physicians can also be related to expanding programs of medical research is one of the major points in the report of a group of special consultants to the Secretary of Health, Education, and Welfare. This group, appointed to advise the Secretary of Health, Education, and Welfare on long-term needs in medical education and research, included three medical school deans and had, as its chairman, Dr. Stanhope Bayne Jones, former dean at Yale.

The report advises that expenditure for medical research should be tripled in the next 12 years. Such expansion will require an increase in the number of medical research scientists of from 20,000 to 45,000—concomitant with the demands by the growing population for more medical care. Accordingly, fourteen to twenty new medical schools, at a total cost of 500 million to one billion dollars, will be needed. Not only will more physicians for medical research be required, but, in addition, an increased number of medical scientists with the Ph.D. degree.

Many medical school deans will heartily endorse the proposal that consolidation and slow growth should be the objectives of the research facilities at the N. I. H. No one would question the scientific merit of these programs. However, there is cause for concern whether continued mushrooming will not make serious inroads on the availability of medical research scientists. Even today the popularity of the research position in an institution with ultra-modern facilities plus assured financial support makes recruitment and maintenance of a top-notch medical faculty difficult for our medical schools.

One would hope that the recommendation for a "new type of basic general support" will receive very careful consideration. What should it be? The categorical training and research grants have been effective; yet a broader approach is indicated. Perhaps 5-year institutional grants to pay part or all of the salaries of promising young medical scientists would be desirable. The responsible investigator would be the Dean. We hope that Mr. Folsom's successor, Secretary Arthur Fleming, will give prompt attention to the implementation of this section of the report.

So many reports emerge from so many consultants these days! Here is a document which requires *action*.

JOHN Z. BOWERS, M.D.

THE PURSUIT OF EXCELLENCE

Recently the Rockefeller Brothers Fund supported a study entitled "The Pursuit of Excellence: Education and The Future of America." The fifteen educators and editors who constituted the reporting panel included the President of the A.A.M.C.—Dean Lowell Coggeshall. The report delves into many aspects of the current and anticipated problems relating to the educational process in all areas and at all levels. It should be carefully reviewed by medical educators. The comments on financing are germane to the core problem that faces our medical schools today.

"All of the problems of the schools lead us back sooner or later to one basic problem . . . financing. . . . For those who wish to resist or postpone the resort to federal funds and at the same time not constrict educational services, there seems to be only one alternative: a thorough, painful, politically courageous overhaul of state and local tax systems. . . . To the extent that the Federal Government can assist in building construction either through loans or outright grants, it will be engaging in one of the most helpful and least hazardous forms of support to education."

THE CARROLL REPORT

During recent years the costs of medical education have come under considerable scrutiny. All medical educators recognize the inherent difficulties in making an objective study of such a complex problem. The role of research, the operation of the teaching hospital and of non-medical school teaching programs are a few of the complicating factors. It is singularly fortunate that Mr. A. J. Carroll, of the State University of New York, has, during the last two years, carried on a comprehensive study of the cost of the operation of a medical college.

The report of the study has now been published under the sponsorship of this association. A summary statement has been prepared by Mr. Carroll and appears in this number of the *Journal*.

We commend the report to the careful perusal of our readers and all other individuals concerned with the financial aspects of medical education.

JOHN Z. BOWERS, M.D.
Editor-in-Chief

SUMMARY OF THE REPORT ON A STUDY OF MEDICAL COLLEGE COSTS

A year or so ago the Board of Trustees of the State University of New York, in planning the development of its two medical centers, faced these questions regarding the costs of medical education:

How much does it cost to educate a doctor? Why is medical education so expensive? Does it have to be so expensive? What would happen if we cut the budget?

What salaries are being paid by other medical colleges? What are the fringe benefits and other job factors that affect our competitive position in employing faculty members? What are the personnel policies and practices of other medical colleges? Do other universities have medical college personnel problems? If so, what are they and how are they being handled?

What systems or plans are in effect at other colleges regarding the private practice of faculty members? What has been the experience at these schools? What are the good and bad points of each medical service plan? How do each of the various plans affect faculty salaries, medical college costs, relationships with the medical profession, and the over-all operating efficiency of the college?

Consulting the reported costs of the various medical colleges raised more questions:

Why are our costs so much higher than other colleges? Why does the dean feel that these comparisons are unreliable? How can we produce reliable cost comparisons? What portion of the medical college budget is spent for undergraduate teaching, for other educational programs, for research, for community health services, for patient services, etc.? Why is medical college cost accounting different from industrial cost accounting?

How much do universities pay to operate their teaching hospitals and clinics? What are the general policies and practices governing these operations? How do centralized government fiscal and business controls affect costs and efficient operations?

A study to find the answers to these questions was sponsored by the State University of New York. The report of this study is based on information obtained during personal visits to nine private and ten state teaching medical centers located in various parts of the United States.

The report answers or will help you to answer all the foregoing questions and goes much further:

It provides a formula to produce the uniformity needed for cost comparisons and proceeds to develop comparable costs for the nineteen colleges.

It centralizes the total costs of each college and compares the costs of each instructional department, administration, buildings and grounds, library, supplies, equipment, etc.

It compares and discusses the factors that influence cost—student enrollment, the scope of teaching, research, and service programs, research grant expenditures, use of research grants for teaching salaries, volunteer faculty services, contributed facilities, etc.

It describes in detail a proved, practicable, simple, and inexpensive "program cost finding" system.

It discusses the effect of increased enrollment on per student costs, the problems of increased enrollment, educational programs for ancillary medical personnel and their effect on student costs, faculty staffing patterns, and the effect of administrative policies on costs.

It discusses administrative practices and operating problems regarding such topics as medical care, use of radioisotopes, use of television for teaching, and electronics laboratories.

In conclusion it tells how this information may be used to improve administrative efficiency, for planning, and for substantiating budget requests for more adequate financial support.

In his Preface to the report Dr. Ward Darley, executive director of the Association of American Medical Colleges wrote: "... The detail as to concepts and procedures is such that any teaching medical center can find direction therein for the execution of a self-study and, as a result, compare itself for the fiscal year 1956-57 to any of the nineteen institutions."

Dr. Darley also wrote: "... The report will give members of the university governing boards, legislators, and other laymen who play an essential role in medical education a better understanding and appreciation of the problems and complexities of teaching medical centers."

Excerpts

PEACE WITH "THIRD PARTIES"

Increasing entry of "third parties" into the economics of medicine is, to many U.S. doctors, a portent of things to come. Some physicians say it will eventually tend to break down the traditional relationship of doctor and patient; others claim it will speed the day of socialized medicine.

In a speech at the New York County Medical Society's annual meeting, its outgoing president, Dr. Philip D. Allen, presented a different point of view. Excerpts from his speech follow:

Somehow, a peaceable and working relationship must be found between the medical profession and the so-called "third parties" which have been entering into the problem of medical care.

Too many physicians, I believe, pin the label "third parties," as a slogan on medical schools, hospitals, insurance plans, union health and welfare funds, industrial medical installations, and then go on to beat this slogan to a pulp. This may be gratifying in an emotional sense, but it solves very little. Too often it means only that we stand on status quo and what used to be, and fail to recognize that opposition alone is not enough.

The insurance companies, be they profit or nonprofit, constitute one "third party" with whom we must learn to work. The same applies to the health and welfare funds of unions. We are fighting a losing battle if we think the prepayment of medical expenses is not here to stay.

The public, or patients, demand—and I think with justification—that they should try to meet the cost of illness beforehand, while they are in good health. The insurance principle of prepayment is the way to do this.

Fees Must Be "Proper and Equitable."—We all know how much trouble arises when the doctor says: "Don't worry about the bill. It will be all right. You just get well." This is most reassuring to the patient in his time of illness. But the difference between what the physician may think is a fair bill and what the patient thinks about it is the prime cause of complaints to our grievance committees across the nation.

Insurance for illness is the business-like way to pay medical and surgical bills. I believe the more a physician receives his income from this source, the less the traditional doctor-patient relationship tends to break down. If the fees in the insurance schedule are proper and equitable for both patient and physician, we can do much to resolve problems in this area.

The great difficulty is to get the medical profession to accept fee schedules, but this is being done more and more. The pattern of the future is that probably 90 per cent or more of the average physician's income will come from so-called "third party" payments and not from the patient himself. This has already happened in some parts of the nation, especially in the Pacific Northwest.

I would warn the "third parties," however, that if they insist on fee schedules which are below what is just and equitable in a given community, and try to get their medical care "wholesale," they will find they receive just what they pay for.

Education Program Is Needed.—In this area of insurance, incidentally, I would note

that both the public and the medical profession need a tremendous educational program to learn this basic concept: *that insurance does not create wealth.*

Too many people think, if they have an insurance claim, that they have hit the jackpot of fortune. And I am appalled that many doctors have the same idea, and raise their fees far above their normal rates just because the patient does have insurance.

This, I maintain, is the way to kill the insurance concept of protecting against the costs of illness by prepayment. It is the way, too, to speed the day when government health insurance will replace voluntary health insurance.

I dislike mentioning that old bugaboo slogan, socialized medicine, but it seems necessary at times. I do maintain that the medical profession and the medical societies must work closely with private health insurance plans and see that they do their job and, in the future, a still better job. Complacency must not exist in this field.

Reprints

THE PRESENT AND FUTURE STATUS OF FOREIGN MEDICAL SCHOOL CREDENTIALS IN THE UNITED STATES*

Introduction

Since February, 1950, the Council on Medical Education and Hospitals of the American Medical Association and the Executive Council of the Association of American Medical Colleges have published a list of foreign medical schools whose graduates are recommended for consideration on the same basis as graduates of approved medical schools in the United States and Canada. This has always been offered as an advisory list for the use of State Licensing Boards, Hospitals, Specialty Boards and other organizations in the United States concerned with the evaluation of medical credentials and qualifications of graduates of foreign medical schools. These same organizations have always been advised that the list was acknowledged to be a tentative one and that the position of the Councils with respect to the foreign medical schools not listed has been that they neither approve nor disapprove of them.

In the years since the initial publication of this list, the number of graduates of foreign medical schools coming to the United States on either temporary or permanent visas has increased tremendously. The vast majority of physicians now entering this country either for further study as interns or residents or for permanent stay and medical licensure have received their medical degrees from medical schools other than those listed.

It is impossible for the Council on Medical Education and Hospitals of the American Medical Association and the Executive Council of the Association of American Medical Colleges to obtain and maintain adequate and current information concerning the educational programs of all or even a reasonable portion of the medical schools in the world whose graduates will now and in the future wish to come to the United States. For this reason, the two Councils many months ago reached the decision that it was no longer feasible to maintain a recommendation regarding graduates of foreign medical schools based on the school of graduation. After considerable study, it was concluded that a mechanism for the evaluation of the medical credentials and qualifications and facility with the English language of the individual foreign physician would be more generally equitable to graduates of all foreign medical schools desiring to enter this country. A program of this kind would also better serve the welfare of American patients for whose care these physicians would have responsibility.

The Educational Council for Foreign Medical Graduates

After more than two years of cooperative study by representatives of the American Hospital Association, the American Medical Association, the Association of American

* Authorized and published by the Council on Medical Education and Hospitals, American Medical Association, 535 North Dearborn Street, Chicago 10, Illinois; and the Executive Council, Association of American Medical Colleges, 2330 Ridge Avenue, Evanston, Illinois, June 1, 1954.

Medical Colleges, and the Federation of State Medical Boards of the United States, a method for evaluating the graduates of foreign medical schools wishing to come to the United States has been devised. The four parent groups have sponsored the organization of the Educational Council for Foreign Medical Graduates (ECFMG) to implement this new program. The Educational Council for Foreign Medical Graduates (ECFMG) has been legally incorporated in the State of Illinois and is located at 1710 Orrington Avenue, Evanston, Illinois. Responsibility for the affairs of ECFMG rests with a 10-member Board of Trustees which includes two members each selected by the American Hospital Association, the American Medical Association, the Association of American Medical Colleges, the Federation of State Medical Boards of the United States and two representatives-at-large (one selected by the United States Department of Health, Education and Welfare and one by the United States Department of Defense).

ECFMG will evaluate the medical credentials of graduates of foreign medical schools wishing to enter the United States. Credentials will be declared acceptable if they indicate that the foreign graduate has completed no less than 18 years of formal education including at least 4 academic years in a bona fide medical school. For candidates whose credentials are acceptable, ECFMG will test their knowledge of medicine and command of English through testing centers in the United States and abroad. Those candidates who are successful will be certified as possessing medical knowledge reasonably equivalent to that expected of graduates of approved medical schools in the United States and Canada and as having satisfactory facility with the English language. The certification so acquired will be transmitted to hospitals, licensing authorities, specialty boards and other appropriate organizations or institutions as desired by the candidates.

It is to be emphasized that ECFMG (and also the Council on Medical Education and Hospitals of the American Medical Association and the Executive Council of the Association of American Medical Colleges) is not designed to serve as a placement agency. Graduates of foreign medical schools must continue to make arrangements for placement in U.S. hospitals through direct correspondence with the hospital(s) concerned. Assistance in placement may also be obtained through the National Committee for Resettlement of Foreign Physicians, Inc., 31 Union Square West, New York 3, N.Y.

Further information regarding the program of ECFMG, procedure for making application, dates and locations for testing, fees, etc., can be obtained by corresponding directly with the Educational Council for Foreign Medical Graduates, 1710 Orrington Avenue, Evanston, Illinois.

The Present and Future Status of the List of Foreign Medical Schools

In February, 1958, the Council on Medical Education and Hospitals of the American Medical Association and the Executive Council of the Association of American Medical Colleges acted to withdraw the current list of foreign medical schools for whose graduates the Councils have recommended consideration on a basis comparable to that of graduates of approved medical schools in the United States and Canada. *The withdrawal of this list and its accompanying recommendation is to become effective as of January 1, 1960.*

The Councils wish to emphasize that this notice of discontinuing the listing of certain foreign medical schools is not intended to indicate any lowering of standards of the foreign medical schools that have been on the list. Rather, this action reflects the Councils' inability

to acquire and maintain a continuing, adequate knowledge of the educational programs of all the foreign medical schools whose graduates come to the United States.

The Council on Medical Education and Hospitals of the American Medical Association and the Executive Council of the Association of American Medical Colleges now recommend that licensing boards, hospitals, specialty boards and other organizations in the United States concerned with the medical qualifications of graduates of foreign medical schools consider certification by the Educational Council for Foreign Medical Graduates as evidence that the recipient of such certification is possessed of medical knowledge comparable to that expected of graduates of approved medical schools in the United States and Canada. These two Councils further recommend that such certification be considered as evidence of the quality of medical training offered by the medical school attended by the holder of a certificate at the time of his graduation.

In the interval between the present and the January 1, 1960, effective date of withdrawal of the list of foreign medical schools, the Councils will support the recommendation in regard to graduates of the listed schools and also the recommendation pertaining to certification by the Educational Council for Foreign Medical Graduates. The Councils believe that the transition period of almost two years should allow adequate opportunity for all concerned to adapt to this new program.

The Present and Future Status of Graduates of Foreign Medical Schools Seeking Advanced (Internship and Residency) Training in the United States under the Exchange-Visitor Program

The Council on Medical Education and Hospitals of the American Medical Association will revise in the near future its Essentials of an Approved Internship and Essentials of Approved Residencies and Fellowships to include a statement to the effect that hospitals considering foreign medical school graduates for internship or residency positions are recommended to acquire reasonable assurance regarding the medical qualifications of foreign trained physicians by deferring their appointment until the candidates have been certified by ECFMG.

It is expected that this revision will be effective for intern and residency appointments to begin on and after January 1, 1960. Since graduates of foreign medical schools accepting appointments as interns and/or residents in the interval period before January 1, 1960, are likely to consider seeking reappointment after that, it is suggested that where possible they avail themselves of the opportunity of evaluation by ECFMG before that date. *Regardless of the date of appointment, it is expected that all graduates of foreign medical schools serving as interns or residents in U.S. hospitals as of July 1, 1960 will have been certified by ECFMG.*

The Present and Future Status of Graduates of Foreign Medical Schools Entering the United States on Permanent (Immigration) Visas

Neither the Council on Medical Education and Hospitals of the American Medical Association nor the Executive Council of the Association of American Medical Colleges is in a position to render advice concerning the basic privilege of immigration. Information concerning immigration to the United States can be obtained from the nearest United

States Consulate or Embassy or from the Immigration and Naturalization Service of the United States Department of Justice.

Medical licensure in the United States is a "state right" and is entirely under the jurisdiction of the governments of the individual states. The power to license physicians is exercised through the medical licensing boards of each individual state and there is no licensure of physicians in this country by the federal government. It is not possible for either Council or for ECFMG to intervene on behalf of any individual seeking licensure whose credentials do not meet the requirements of the board to which he has applied. ECFMG will, however, on request of the foreign trained physician notify any board of his certification acquired through the new evaluation program.

A summary of the present requirements of the various states, territories and possessions for medical licensure of foreign medical graduates is appended as an insert. This material is collected annually by the Council on Medical Education and Hospitals and published in *The Journal of the American Medical Association*. Current and more detailed information should be obtained through direct correspondence with the secretaries of the boards in those states in which the foreign medical graduate is most interested. The names and addresses of the secretaries of the medical examining boards can be found on the reverse side of the insert.

Graduates of foreign medical schools contemplating immigration to the United States for the practice of medicine should note that one requirement of the vast majority of states is an approved internship in the United States. It is anticipated that hospitals offering approved internships will request that graduates of foreign medical schools seeking such positions on and after January 1, 1960, will have obtained certification by ECFMG. It appears likely that some hospitals may expect such certification prior to that date. *Regardless of the date of appointment, it is expected that all graduates of foreign medical schools serving as interns or residents in U.S. hospitals as of July 1, 1960, will have been certified by ECFMG.*

The Federation of State Medical Boards of the United States helped create and strongly supports the program of the Educational Council for Foreign Medical Graduates and it is anticipated that increasing numbers of individual medical licensing boards will require certification by ECFMG as prerequisite to licensure examination for foreign medical graduates. It is likely that by January 1, 1960, many and perhaps most licensing boards will have established this requirement.

Present and Future Status of American Citizens Studying Medicine outside the United States and Canada

American citizens undertaking their medical studies abroad have been subject to the same regulations and procedures governing medical licensure and intern and residency positions as are all other graduates of foreign medical schools. Therefore, Americans enrolled in medical schools outside the United States and Canada who plan to return to this country for internship, residency and/or medical licensure are encouraged to seek certification by ECFMG on completion of medical school studies. Comments appearing above concerning the relationship between ECFMG and internship and residency positions and medical licensure for foreign medical graduates entering the United States on permanent visas are equally applicable to American citizens studying medicine abroad.

Policy of the American Hospital Association Concerning
Graduates of Foreign Medical Schools

The American Hospital Association has strongly supported the organization and efforts of the Educational Council for Foreign Medical Graduates. It believes that only qualified medical graduates should serve in patient care situations in hospitals. To this end, it now advises hospitals considering appointment of foreign medical graduates to their staffs, wherever they can do so with fairness to themselves and to the foreign medical graduate, to accept only foreign medical graduates certified by the Educational Council for Foreign Medical Graduates.

It is expected that all graduates of foreign medical schools serving as interns or residents in U.S. hospitals as of July 1, 1960, will have been certified by ECFMG. The American Hospital Association will take this into consideration when approving hospitals for listing.

Policy of the National Intern Matching Program Concerning
Graduates of Foreign Medical Schools

The vast majority of graduates of American medical schools acquire internship appointments through a matching program which assures them a position in the first hospital of their choice that ranks the graduate high on its list of prospective interns. In the past, the National Intern Matching Program, 2530 Ridge Avenue, Evanston, Illinois, has accepted graduates of foreign medical schools. It will continue to do so beginning with the 1959-1960 program, provided the foreign medical graduate has been certified by the Educational Council for Foreign Medical Graduates. Information regarding the National Intern Matching Program can be obtained at the address given above.

NEW BOOKS

KENNETH E. PENROD
Book Review Editor

Book Reviews

Doctors in Gray: The Confederate Medical Service. By H. H. CUNNINGHAM. Baton Rouge: Louisiana State University Press, 1958. 273 pp. plus appendices. \$6.00.

It is of considerable interest that, in spite of the large number of books and manuscripts published on the various aspects of the Civil War, little attention has been paid to the medical services of either side. In this interesting and informative book Dr. Cunningham has made an effort to correct this situation from the Confederate point of view.

In reading this book one concludes that more progress has been made in the last hundred years than he may have believed previously. Medicine was unbelievably primitive at the time of the great civil conflict, and it has long been known that in that period of history disease and illness accounted for far more casualties than bullets in any war.

Whereas some may object to the vast number of statistics included in this book, they are recognizably necessary in the interest of completeness. This book will be invaluable for other historians, as it reflects a summarization of an enormous number of original papers and manuscripts to which Dr. Cunningham had access. A valuable portion of this book is included in the last appendix where the source material is discussed at some length.

Of great interest to many people concerned with tracing the activities of their ancestors in the Confederate Army is the appendix listing a large number of the medical officers and their specific duties. Likewise, many people living in the South will be interested in the location of the various hospital units again offered in an appendix.

One of the most significant developments in relation to military medicine was the introduction, in the Spring of 1862, of a plan for exchange of surgeons between the conflicting armies. Up to that time it had been customary

in all wars for medical personnel, like other military personnel, to be held as prisoners of war when captured. Seemingly the first break from this tradition occurred when the army of Stonewall Jackson, during his Shenandoah Valley Campaign of 1862, entered the city of Winchester on May 25. A number of Union wounded had been left at Winchester's Union Hotel Hospital which was in charge of Brigadier General J. Burd Peale. General Jackson ordered that Peale and his colleagues be allowed to continue their ministrations undisturbed, and when Jackson's forces withdrew on May 31 an agreement was reached between the Union surgeons and Dr. Hunter Holmes McGuire, Medical Director of Jackson's army, which freed the former unconditionally upon their promise to work for the release of the same number of Confederate surgeons. The Union surgeons also agreed to lend their efforts to win support for the principle that all medical officers captured thereafter should be released unconditionally. The following June 10 General George B. McClellan, Commander of the United States Army of the Potomac, proposed to General Lee that medical officers "be viewed as non-combatant" and not liable to detention as prisoners of war. General Lee concurred to this proposal on June 17, 1862, and this proposal was adhered to without interruption until the summer of 1863. At this point an episode occurred involving one Dr. William P. Rucker who was accused by the Confederates of "committing murder and stealing a horse" shortly after the outbreak of hostilities. Consequently, he was detained as a criminal, and the Union Army retaliated by holding a hostage from among the Confederate surgeons eligible for exchange. Several months passed before this episode was closed by the escape of Dr. Rucker from his prison in Richmond following which the exchange of medical personnel was resumed.

This book should prove of interest not only to students of the Civil War and those of Southern ancestry but to all interested in medi-

cal history and a glimpse into medicine as it existed one hundred years ago. Not only is the book of value for factual information but in many places provides delightful light reading.

K. E. P.

Abstracts

Orthopedic Diseases-Physiology-Pathology-Radiology. By ERNEST AEGERTER and JOHN A. KIRKPATRICK, Jr. 1st ed. Philadelphia: W. B. Saunders Co., 1958. 588 pp. \$12.50.

The "basic science" aspect of bone disease has lagged behind that of other systems. This has been due to the difficulties involved in cellular and intracellular investigation. New techniques and tools that have recently become available in the fields of histochemistry, immunologic chemistry, and radioactive isotopes have permitted probing into the cell membrane and greatly enhanced activity in this field. Furthermore, phase, ultraviolet and electron microscopy have aided greatly in revealing aspects of cell composition that heretofore were undreamed of. This book is conceived by its authors as a start in making this newer knowledge available to the busy practitioner of medicine. It looks at bone disease from the standpoint of its altered morphology and physiology, yet it tries to interpret these in terms of symptomatology and roentgenography. This book is concerned with the understanding of the diseases which affect the musculoskeletal system. It is based on the concept that the diagnosis of orthopedic diseases necessitates an understanding of the pathology and physiology of bone; from these disciplines arise the clinical manifestations and the radiographic and laboratory findings. This volume is primarily a compendium of material published elsewhere. No pretense is made for completeness, since it is intended for practical use by the clinician who wants to increase his diagnostic efficiency, the radiologist, the pathologist, the young specialist who must face board examinations, and the medical student who must acquire a certain amount of knowledge of orthopedic diseases at that stage.

Pediatric Surgery. By ORVAR SWENSON. New York: Appleton-Century-Crofts, Inc., 1958. 750 pp., 980 illustrations. \$20.00.

This textbook on pediatric surgery was planned to supplement rather than duplicate volumes on general adult surgery. The features which distinguish a disease in children from that in adults are described in detail. In many books on adult surgery many of the conditions limited to children are not included or are dealt with briefly. Such processes and their treatment are fully described here. Operative procedures peculiar to pediatric surgery are explained as completely as possible. Pre- and post-operative care, in addition to complications, are presented in detail. Likewise, for the benefit of young surgeons who are often hard-pressed to find an adequate description of some of the more simple surgical procedures, considerable space is devoted to this aspect of surgery.

Fractures and Other Injuries. Edited by EDWIN F. CAVE with 39 contributors. Chicago: Yearbook Publishers, Inc. 838 pp. \$28.00.

This book was prepared by the members of the Fracture Clinic of the Massachusetts General Hospital and the faculty of Harvard Medical School. An editorial board comprised of Drs. Joseph S. Barr, Bradford Cannon, Claude E. Welch, James C. White, and Edwin F. Cave coordinated all contributions. In a sense this book represents a successor to "Experience in the Management of Fractures and Dislocations," which was first published in 1938 by the same group. However, the present volume does not limit itself as much as the former and now includes treatment of all forms of trauma. Considerable variability in presentation is evidenced among the various chapters. In some, considerable statistical data are included, whereas in others there is none. Some chapters are freely illustrated, and others have no illustrations. Each chapter is followed by a set of bibliographical references.

Physical Diagnosis. By F. BENNETTE ADAMS. 14th ed. Baltimore: Williams & Wilkins Co., 1958. 879 pp. \$12.00.

This book is the direct descendent from the original textbook by the same title by Dr. Richard C. Cabot first published in 1900. Dr. Cabot carried this book through the first eleven editions and was, at his request, joined by Dr. Adams for the twelfth edition. Since that time the book has increasingly become the work of Dr. Adams, such as to justify the present edition's no longer carrying the name of Dr.

Cabot. This is the first revision since 1942 and consequently is a considerable one. There has been extensive reorganization and revision, but the purpose of the book remains the same: to show how the patient should be examined; to describe the normal findings; to explain and interpret the important symptoms and signs created by injury or disease. No effort has been made to cover the entire field of medicine—in fact, the author's aim has been to select only those disturbances which one is likely to encounter from day to day. The unusual and extreme have purposely been omitted.

Pathology for the Physician. By WILLIAM BOYD. 6th ed. Philadelphia: Lea and Febiger, 1958. 891 pp., 489 illustrations. \$17.50.

The first five editions of this book were published as *Pathology of Internal Diseases*. In many respects this may be considered a new book rather than merely a new edition. Large sections have been rewritten, rather than new material being merely added to the old. This is especially true in the chapters dealing with the kidney, the respiratory system, the blood and the endocrine glands. In the section dealing with general considerations which opens each chapter, the newer cytological, physiological, and biochemical aspects of the subject are considered. New chapters have been written on diseases of muscle and the internal environment, a separate one written on diseases of joints, and the chapters on the kidney have been placed immediately after those on the heart and arteries because of the increasingly intimate correlation between cardiovascular and renal diseases. The rewriting has been done with the graduate rather than the undergraduate student in mind, the physician or internist rather than the pathologist, the young rather than the old. The references have been rearranged alphabetically instead of by subject matter.

Obstetrics and Gynecology. By J. ROBERT WILLSON, CLAYTON T. BEECHAM, ISADOR FORMAN, and ELSIE REID CARRINGTON. St. Louis: C. V. Mosby Co., 1958. 589 pp. \$10.75.

This textbook is an outgrowth of mimeographed summaries of the course taught third- and fourth-year medical students at Temple University School of Medicine. The book is aimed at a middle ground somewhere between

the two extremes of synopses of obstetrics and gynecology and the many costly encyclopedic texts which include the details of anatomy, physiology, pathology, and laboratory and operative techniques. The emphasis is placed upon the changes produced in body structures and their function by various obstetric and gynecologic conditions. The book emphasizes methods of diagnosis and treatment which can be utilized by the family physician, as well as the specialist, in his own office or in the hospital. In format the book presents a sequential story of the life history of normal women and their diseases from birth to senescence. Normal and abnormal pregnancies are considered as a unit, although certain gynecologic problems are introduced at what the authors consider to be appropriate points in the obstetric discussions. The emotional as well as physical aspects of obstetric and gynecologic problems have been included when appropriate. In addition, the preventive aspects of the subject are also stressed.

The Physiology of Man. By L. L. LANGLEY and E. CHERASKIN. 2d ed. New York: McGraw-Hill Co., 1958. 653 pp. \$6.95.

A sincere effort has been made by the authors to incorporate as many of the criticisms they have received of the first edition of this book as possible. The first section is now devoted to orientation. Likewise, throughout the book, additional attention has been paid to anatomical considerations, so that the student may better visualize physiological function in the proper framework. Each chapter begins with a short introduction, covers the subject, and ends with a concise summary. The goal has been to present the body of physiological thought in digestible units, but always with the final result of the integrated whole in mind. This book presupposes no previous knowledge of physiology.

Electrocardiography. By MICHAEL BERNREITER. Philadelphia: J. B. Lippincott Co., 1958. 129 pp. \$5.00.

The author's purpose in writing this book is to outline the fundamental aspects of electrocardiography as they are encountered in everyday practice. The book has been directed toward the needs of the medical student, the general practitioner, and the internist. It is also meant to supplement the graduate courses in electrocardiography given yearly at the author's

hospital. Most of the electrocardiograms shown are from patients whose condition was verified by necropsy findings.

Electrocardiogram Clinics. By JOSEPH E. F. RISEMAN and ELLIOT L. SAGALL. New York: Macmillan Co., 1958. 258 pp. \$10.50.

The purpose of this book is to provide illustrations of the practical use of the electrocardiogram in the management of patients with definite or suspected heart disease. This book is not meant for the experienced consultant. Rather, it is intended for that growing group of general practitioners and internists who have learned that a knowledge of electrocardiography can aid them in the management of some of their cardiac problems. The book is an outgrowth of a postgraduate course entitled "EKG Clinics" conducted by the authors. For these clinics practitioners were asked to supply tracings, case histories, and questions on clinical management. The round-table discussions of the clinics were tape-recorded, edited, and used to form the basis of this book. In the section entitled "Discussion of the Electrocardiogram" the authors have attempted to describe the tracings, step by step, following the same routine for each patient. This detailed report is included in each case to enable the student to check his own analysis of the characteristics of the tracings.

Medical Electrical Equipment. Edited by ROBERT E. MOLLOY, with 21 contributors. New York: Philosophical Library, Inc., 1958. 306 pp., 238 illustrations. \$15.00.

This book has been prepared in the belief that there is a real and urgent need for authoritative information on the principles, operation, care, and routine maintenance of medical electrical equipment, presented in terms that do not presuppose a deep knowledge of electricity. In recent years there has been a tremendous inflow of electrical apparatus and devices of all kinds into the hospitals and clinics, which has placed upon the medical staff who operate them, and on the technicians who carry out the routine maintenance, the need to have a clear understanding of the principles involved, some knowledge of their construction, and, most important, information on the special care required to eliminate possible dangers to the patients and staff. It is with this thought in mind that this helpful volume has been prepared.

The Medical Assistant. By MIRIAM BREDOW. New York: McGraw-Hill Book Co., Inc., 1958. 419 pp. \$7.50.

In the last few years, largely resulting from the shortage of trained nurses, there has evolved an increasing number of medical assistants who play an important role in the office of the practicing physician. These medical assistants represent a cross between the trained medical secretary and the graduate nurse. The present book was written to provide a training or reference text for this increasing number of medical assistants. The book is written for the person with no medical training and attempts to teach (1) what the assistant has to do, (2) how she should do it, and (3) why she should do it. In addition, it includes basic theoretical information that is essential for the assistant to know if she is to carry out her duties competently.

The Psychology of Medical Practice. By MARC H. HOLLENDER. Philadelphia: W. B. Saunders Co., 1958. 262 pp. \$6.00.

In a general way the expression "the psychology of medical practice" is used here to refer to the art of medicine. It is the author's purpose to turn a psychological spotlight on the patient, the physician, and what might be called the medical situation. This book is not a textbook of psychiatry. Neither is it a textbook of psychosomatic medicine. The focus is on psychological problems encountered in practice which the physician may attempt to handle himself. Psychological application to four specialties—medicine, surgery, obstetrics, and pediatrics—is covered. A separate chapter has been devoted to the patient with carcinoma, and two chapters have been devoted to the doctor-patient relationship, one theoretical and the other practical. In the last two chapters the psychological factors related to giving medicinal and non-medicinal prescriptions are discussed.

Books Received

Juvenile Delinquency. Edited by JOSEPH S. ROUCEK with 12 contributors. New York: Philosophical Library, 1958. 365 pp. \$10.00.

The Analysis of Dreams. By MEDARD BOSS (translated by Arnold J. Pomerans). New York: Philosophical Library, 1958. 211 pp. \$6.00.

Gestation. Trans. Fourth Josiah Macy, Jr., Found. Conf., March 5, 6, & 7, 1957. Edited by CLAUDE A. VILLEE. New York: Josiah Macy, Jr. Found., 1958. 201 pp. \$4.50.

The Psychiatric Hospital as a Small Society. By WILLIAM CAUDILL. 1st ed. Cambridge: Harvard University Press, 1958. 389 pp. \$6.50.

Perversions: Psychodynamics and Therapy. Edited by SANDOR LORAND and MICHAEL

BALINT. 1st ed. New York: Random House, 1956. 307 pp. \$5.00.

Crime and Insanity. Edited by RICHARD W. NICE. New York: Philosophical Library, 1958. 276 pp. \$6.00.

Maimonides' The Preservation of Youth. Translated by FI TADBIR AS-SIHHA. New York: Philosophical Library, 1958. 92 pp. \$2.75.

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NEWS FROM THE MEDICAL SCHOOLS

Alabama

New appointments to the Medical Center include Dr. LELAND CLARK and Dr. HERSCHEL VICTOR MURDAUGH, Jr. Dr. Clark was named associate professor of biochemistry in the department of surgery. He is the inventor and developer of the Clark Oxygenator, used in advanced cardiac surgery. Dr. Murdaugh joined the faculty as assistant professor of medicine and director, Renal and Electrolyte Section of the department of medicine. He is also assistant chief, Medical Service, of the Veterans Administration Hospital in the Medical Center.

Arkansas

The Medical Center has been awarded a grant of \$1,066,000 by the Public Health Service to help finance construction of a clinical research wing. The money will be matched on a dollar-for-dollar basis by private funds being raised within the state.

Dr. PHILIP P. ELLIS, former assistant professor of ophthalmology at the University of Iowa, has been appointed associate professor to head the ophthalmology division in the department of surgery. The department has been awarded a \$25,000 grant from the National Institutes of Health to be used toward paying salaries in the newly-created division.

Dr. HORACE N. MARVIN has been promoted to professor and head of the department of anatomy. He succeeds Dr. WILLIAM C. LANGSTON, who has reached emeritus rank after serving on the faculty 28 years.

University of Chicago

Dr. MARTIN E. HANKE, associate professor of biochemistry, and former assistant

dean of students in the division of biological sciences, has been named director of the clinical chemistry laboratory. Among the purposes of this appointment is a consolidation of the work in clinical chemistry which is now being done independently in the various clinical departments and hospitals of the university.

Colorado

A grant of \$24,626 by the Office of Vocational Rehabilitation of the Department of Health, Education, and Welfare has been given to the department of physical medicine and rehabilitation to enhance its teaching program. It will be used for the teaching of medical students and vocational counselors, and for postgraduate courses for physicians in the Rocky Mountain area.

Dr. CHARLEY J. SMYTH, associate professor of medicine, was named president-elect of the American Rheumatism Society at its recent annual meeting in San Francisco. Dr. Smyth is also a member of the executive committee of the Rocky Mountain Chapter of the Arthritis and Rheumatism Foundation.

George Washington

With the opening of the new school year, Dr. LELAND WILBUR PARR will serve as professor emeritus in residence. Dr. Parr joined the staff of the school in 1932 and has been executive officer of the department of bacteriology, hygiene and preventive medicine since 1939. Dr. HERBERT LEONARD LEY, Jr. has been appointed professor of bacteriology and will succeed Dr. Parr as executive officer. Dr. LEON RICHARD CULBERTSON, associate clinical professor of urology, has been designated as executive officer of the department for the new school year.

Florida

The University of Florida's new \$10 million Teaching Hospital and Clinics will open for the admission of patients October 20. Initially, about 100 beds, including the ambulant wing, will open for patients. Dr. GEORGE T. HARRELL, chief of staff and dean of the college of medicine, reports it is planned that an additional 50 beds will be opened every three months until all 400 beds are available for use. It was necessary that the Hospital and Clinics open this fall in order to accommodate the first class of students of medicine and nursing, now beginning their third year of studies, with the necessary facilities for their clinical instruction.

In addition to the 400 acute and ambulant beds, the structure contains 28 operating rooms, and 22 outpatient clinics in various medical services and specialties.

Indiana

Dr. WARREN ANDREW, formerly with Bowman Gray School of Medicine, has assumed his duties as chairman of the department of anatomy with the opening of the fall session.

Louisiana

Dr. HENRY E. MELENEY, emeritus professor of preventive medicine, New York University, and research professor of medicine, Louisiana State University, retired from his present position on September 30. He has been appointed assistant health officer of Alachua County, Gainesville, Florida. His special responsibility will be the development of research and personnel training programs. He will also do some teaching at the College of Medicine of the University of Florida.

Marquette

Dr. DAVID W. KERSTING has been named professor and chairman of the department of dermatology, succeeding Dr. HARRY R. FOERSTER, who became clinical professor

emeritus on August 15. Dr. Kersting is the director of graduate training in dermatology at the Veterans Administration hospital at Wood and at Marquette, and he is chief of the dermatology and syphilology sections at Wood. He will direct undergraduate teaching and research at the medical school.

Dr. WILLIAM W. ENGSTROM has been named the Francis D. Murphy professor of medicine and chairman of the department. Dr. Engstrom assumed the post held by Dr. FRANCIS D. MURPHY, who will remain a professor in the department and active in the teaching program of the medical school. Dr. Engstrom has also been appointed director of medicine, Milwaukee County Hospital, a post held by Dr. Murphy for the past 33 years.

Medical Evangelists

The College of Medical Evangelists has added to its faculty a man who holds the degree of Doctor of Medicine and who, in a short time, will receive a doctoral degree in the field of theology. In acquiring the full-time services of Dr. JACK W. PROVONSHA, the College is taking a step in inaugurating the first most complete program of its kind in the country by the fusion of medicine and theology in the healing of man, according to Dr. A. L. Beitz, religion director at CME. To maintain his dual identity as minister and physician, Dr. Provonsha will divide his time equally between teaching religion classes and seeing clinical patients. He will also serve on the staff of the White Memorial Church as minister to medical students.

Miami

The school has received a grant of \$129,000 from the Public Health Service for scientific equipment for its new research building. The federal funds will be matched by an equal amount from the university and other sources.

The school of medicine and the Florida State Board of Health will hold a five day seminar on Care of Premature Infants at the Premature Demonstration Center, Jackson

Memorial Hospital, Miami, November 17-21.

The American Academy of General Practice will accord 35 hours credit in Category I for those registering. The Florida Bureau of Maternal and Child Health has scholarship funds to make it possible for pediatric nurses and residents to attend. Applications should be made to the Bureau.

Dr. ROBERT B. LAWSON, professor and chairman of pediatrics, and Dr. D. G. TRAGGIS, assistant professor of pediatrics, are in charge of the course.

Michigan

Eighteen hospitals in 14 communities throughout lower Michigan are now affiliated with the University of Michigan Medical Center in an exchange program for the advanced training of interns and resident physicians. Through the exchange program the university gains outlets for training its interns and residents and the affiliated hospitals send their trainees to the U-M Medical Center for special study.

The Dean's office and the departments of biological chemistry and pharmacology recently moved into the \$8 million medical science building at the University Medical Center. The seven story structure, built from appropriations by the State of Michigan, houses the teaching and research facilities for the two departments with the dean's office on the 7th floor.

New York University

The university has created a Center for Rehabilitation Services to coordinate and broaden the institution's various programs for the handicapped. The Center will help to develop a university-wide program involving rehabilitation services, the teaching of professional rehabilitation personnel, and related research projects. Individual schools and colleges will continue to operate rehabilitation programs independently, with the Center acting as an overall coordinating and planning office. A Director of the Center has not yet been appointed.

Oklahoma

Dr. GILBERT S. CAMPBELL, formerly assistant professor of surgery at the University of Minnesota Medical School, has been appointed professor of surgery and chief of surgical service at the Oklahoma City VA hospital.

New appointments to the faculty include Dr. JOHN ROBERTS SOKATCH as assistant professor of microbiology; Dr. GLEN G. CAYLER, assistant professor of pediatrics; Dr. GEORGE R. WILLIAMS, JR., assistant professor of surgery; and Dr. CHARLES E. SMITH, instructor in psychiatry.

Pennsylvania

Dr. I. S. RAVDIN, John Rhea Barton professor of surgery, has been appointed vice-president of the university for medical development. Dr. Ravdin succeeds Dr. NORMAN H. TOPPING, who resigned to accept the presidency of the University of Southern California. Dr. Topping served as vice-president for medical affairs since 1952.

Dr. JOHN MCK. MITCHELL, dean of the school, has been appointed vice-provost of the university. Dr. Mitchell is president-elect of the AAMC and will assume the office at the Association's annual meeting in Philadelphia, October, 13-15. He will continue to serve as dean of the school in addition to his new capacity as vice provost responsible for the coordination of instructional programs within the medical affairs division.

Saint Louis

Dr. LOUIS L. TUREN, associate professor of clinical neurology and psychiatry and director of the graduate training program in neurology, has been commissioned by the historical unit of the department of the Army to prepare a history of psychiatry and psychiatric hospitals in the Mediterranean theater during World War II. The volume, to be published next year, is one of a series dealing with the Medical Department of the Army during World War II.

Dr. ROBERT D. MATTIS, associate profes-

sor of clinical ophthalmology and executive secretary of the department, served as a delegate to the Eighteenth International Congress of Ophthalmology held in Brussels, September 7-12. Following the Congress, Dr. Mattis visited medical schools in Germany, Switzerland, Austria, Italy and England.

Southern California

Dr. NORMAN TOPPING took office September 2 as the seventh president of the 78-year old University of Southern California. He will be installed in traditional inauguration ceremonies on the campus October 23.

Dr. Topping goes to Southern California, his Alma Mater, from the University of Pennsylvania where he had been vice president for medical affairs for six years. He formerly was an Assistant Surgeon General of the U.S. Public Health Service and associate director of the National Institutes of Health at Bethesda, Md.

Stanford

Dr. THOMAS H. BREM, has been promoted to chairman of the department of medicine following the retirement of Dr. PAUL STARR, head of the department from 1948 to 1955 and co-head since 1955. Drs. Brem and Starr have shared the chairmanship the past three years, Dr. Brem being in charge of teaching and Dr. Starr in charge of research. Henceforth, Dr. Brem will be responsible for both fields. Until Dr. Clayton G. Loosli arrived July 1 from the University of Chicago to become dean, Dr. Brem also had served as chairman of the interim administrative committee of the SC medical school following the resignation of Dr. GORDON GOODHART as dean in 1956.

Dr. LOWELL A. RANTZ, professor of medicine, became associate dean September 1, filling the vacancy created by the resignation of Dr. JAY WARD SMITH. Dr. Rantz will assist Dean Alway in the administration of medical affairs and professional relations both inside and outside the medical school. He will continue his teaching, research, and

clinical activities in the department of medicine.

S.U.N.Y. Brooklyn

Lord COHEN of BIRKENHEAD served on the faculty as visiting professor of medicine for the period September 10-30. The Lord Cohen of Birkenhead has been professor of medicine at the University of Liverpool, senior physician at the Royal Infirmary in Liverpool, and chairman of the Standing Medical Advisory Committee of the Ministry of Health.

S.U.N.Y. Syracuse

A doctor from India has joined the department of microbiology as a participant under an International Cooperation Administration training program. He is Dr. PONDURI VENKETA RAMANARAO of Osmania Medical College, Hyderabad, capitol of the state of Andhra Pradesh. He will receive training in medical bacteriology, virology and recent developments in medical education. The ICA program is designed to assist in upgrading medical education in India.

At the medical center, Dr. Ramanarao will work under the direction of Dr. ORREN D. CHAPMAN, professor and chairman of the department, who himself spent a year and a half as a public health adviser in Jordan under the ICA program.

Temple

Dr. WERNHER VON BRAUN, director, Development Operations Division-Army Ballistics Missile Agency, Huntsville, Alabama, will speak at a special convocation on October 23, under the auspices of the Temple University School of Medicine and its program of Medical Education for National Defense. An honorary degree, Doctor of Science, will be awarded Dr. von Braun at that time.

Texas (Postgraduate)

The School has announced the Fourth Annual Course in Anesthesiology to be held

February 18-20, 1959, in Houston, Texas. The Course is designed to review theory and practice of commonly used anesthetic techniques and will include discussions of some of the newer drugs. All inquiries should be addressed to The University of Texas Postgraduate School of Medicine, 410 Jesse Jones Library Bldg., Houston 25, Texas.

A course in Practical Electrocardiography will also be held in Houston, December 15-19. This course will emphasize Spacial Vector-Electrocardiography. Dr. ROBERT F. GRANT of the National Heart Institute will be the J. J. and Una Truitt Lecturer for this course.

Vermont

Dr. JOHN H. BLAND, associate professor of medicine and director of the Arthritis Clinics at the Mary Fletcher and DeGoesbriand Memorial Hospitals, Burlington, will benefit from four separate grants for a year's study abroad. Dr. Bland will be associated with Prof. J. H. KELLGREN, director of the Rheumatism Research Center at the University of Manchester. Each year a select group of scientists are invited to work and study at the Center and Dr. Bland, who is one of two M.D.'s invited this year, will work in the area of connective tissue biochemistry. His leave is under the auspices of the Nuffield Foundation in England, the Commonwealth Fund of New York, the New England Chapter of the Arthritis and Rheumatism Foundation, and the National Institutes of Health.

University of Virginia

Dr. JAMES R. CASH, Walter Reed professor of pathology, has been appointed professor of pathology at the Basic Medical Science Institute in Karachi, Pakistan. The Basic Medical Science Institute is a new school founded jointly by the Pakistani government, the International Cooperation Administration of the U.S. State Department, and Indiana University. Its purpose is to train graduates of Pakistani medical schools in the methods of American scientific medicine and to prepare them to become faculty

members of their medical schools. Graduate physicians will spend a period of a year or so at the Institute in preparation for assuming positions on the staffs of their universities or for coming to the United States or some other country for advanced study in the fields of their specialty. Dr. Cash's appointment is for two years, after which he plans to resume his affiliation with the department of pathology at the medical school. He is retiring as chairman of the department of pathology and will be succeeded by Dr. DAVID E. SMITH, professor of pathology since 1955.

Wayne State

Construction of an \$800,000 Industrial Medicine and Hygiene Building began recently with completion expected in the spring of 1959. Radiation studies will be conducted on two specially designed and equipped floors of the four-story building. Research will include the study of atmospheric pollutants, including radioactive substances and vehicular health hazards as they may attend certain occupations. The most modern features for radiation safety control have been incorporated in the building design. Classes for training both undergraduate and graduate students in the radiobiologic sciences will be held in the new building.

Promotions to full professor include Dr. F. GAYNOR EVANS, anatomy, and Dr. JACOB L. CHABON, neuropathology.

The College of Medicine now has the largest freshman enrollment in its 80-year history—125 men and women. Since 1951 the enrollment has been 75 freshman.

Dr. JOSEPH J. PFIFFNER has been named professor of physiology and pharmacology. For the past 21 years, Dr. Pfiffner has been associated with Parke, Davis and Company and as laboratory director in bio-chemical research since 1951.

Woman's Medical College

A Health Research Facilities Grant of \$46,038 has been approved by the Public Health Service toward the purchase of the latest scientific equipment for the college's

\$2 million Research Wing to be constructed this fall. The new six-story addition to the college will provide needed space for an expanded department of physiological chemistry and for the basic science and clinical departments. A Federal grant of one-half million dollars to help meet its construction costs was awarded to the college this spring.

Saskatchewan

Joining the faculty as assistant professors are: Dr. C. A. B. CLEMETSON, obstetrics and gynecology department; Dr. GERALD H. HOLMAN, pediatrics; and Dr. R. E. GRINDELAND, physiology. Dr. Clemetson was formerly at University College Hospital and London University, London, England. Dr. Holman had been at Johns Hopkins and Dr. Grindeland at the University of Iowa. Joining the Cancer Research department as as-

sistant professor will be Dr. R. BATHER of the British Empire Cancer Campaign, Edinburgh; Dr. W. C. C. McMURRAY, University of Wisconsin; and Dr. F. LOTZ, Chester Beatty Institute, London, England.

Toronto

A department of medical biophysics has recently been established at the university's faculty of medicine. The new department will be centered in the research areas of the Ontario Cancer Institute. Dr. A. W. HAM, for many years on the university's department of anatomy staff, has been appointed head of the department.

Dr. E. A. SELLERS has been appointed head of the department of pharmacology, replacing Dr. HARRY CULLUMBER, who has resigned to become vice-president (research), Air-Shields Inc. in Philadelphia.

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ITEMS OF CURRENT INTEREST

American Goiter Assn. offering Award

The American Goiter Association is again offering the Van Meter Prize Award of \$300.00 and two honorable mentions for the best essays submitted concerning original work on problems related to the thyroid gland. The award will be made at the annual meeting of the Association which will be held in the Drake Hotel, Chicago, Ill., April 30, May 1-2, 1959.

Further information may be obtained by writing Dr. John C. McClintock, 149½ Washington Ave., Albany 10, N.Y.

American Heart Association

To stimulate the interest of young people in research careers, four kinescopes showing the methods, objectives, achievements and rewards to be gained in entering the investigative field, are available from local Heart Associations throughout the country for showings to students and educators. The programs are designed to acquaint high school and junior college students with the nature of medical and biological research as actually conducted by leading cardiovascular investigators in their laboratories.

The filmed programs were televised in cooperation with the Educational Television and Radio Center and the National Broadcasting Company, assisted by a grant from E. R. Squibb and Sons, which also aided in publication of the booklet, "Decision for Research." The booklets are available in connection with showings of the series.

American Trudeau Society offering fellowships

The National Tuberculosis Association, through its medical section, the American Trudeau Society, is offering fellowships in the field of respiratory diseases and tuber-

culosis to assist in the training of investigators and teachers of medicine. Awards are available to citizens of the United States for work within this country. Each applicant must have the approval of the head of the department under whom he expects to work. Candidates holding the degrees of M.D., Ph.D. or Sc.D. are eligible for awards. Residency in an approved hospital under such a fellowship will be credited by the American Board of Internal Medicine toward certification in internal medicine and pulmonary diseases.

Predoctoral fellowships are also offered to graduate students who hold a bachelor's degree and are working on a research project for an advanced degree other than an M.D.

Fellowship applications must be received by December 1. Further particulars may be obtained upon request from The Director of Medical Education, American Trudeau Society, % The Henry Phipps Institute, Seventh and Lombard Streets, Philadelphia 47, Pa.

Baxter Laboratories appoint director of clinical research

Dr. Thomas G. Allin, Jr. has been appointed director of clinical research for Baxter Laboratories. Dr. Allin will be responsible for planning and coordination of all clinical research, for liaison with the medical profession, and will serve as internal consultant on medical problems.

Council for Foreign Medical Graduates gives 2nd Exam

Over 1100 foreign medical graduates took the 2nd examination scheduled by the Educational Council for Foreign Medical Graduates. The September 23 examination was held at 30 stations in the United States and 30 foreign stations, including Puerto Rico,



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Brazil, Argentina, Chile, Peru, Colombia, Mexico, Hawaii, Japan, Korea, Taiwan, Hong Kong, Philippines, Thailand, India, Iran, Turkey, Iraq, Greece, Egypt, Lebanon, Italy, Austria, Switzerland, Germany, France, Holland, England, and Spain.

Proctors who administered these tests were appointed by The National Board of Medical Examiners from among medical educators in the United States.

Fifty-one per cent of the 300 applicants examined passed the first examination on March 25, 1958. This initial testing was administered at 17 stations in the United States and none abroad. In 1959, the examinations will be conducted on February 17 and September 22 at the above stations with the possible addition of Israel.

Hospital Research and Educational Trust

Dr. Edwin L. Crosby, chairman of the Board of Governors of the Hospital Research and Educational Trust, announced the receipt of a \$52,000 grant from The John A. Hartford Foundation to make possible the first study on how electronic data processing equipment may best be adapted for hospital use. Dr. Crosby said the study would require about four months and would be carried out in Dallas, Texas, at the Baylor University Hospital.

The Trust, a nonprofit organization, conducts projects for general improvement of knowledge and practice in the hospital field with the aid of grants from foundations and other sources.

Kellogg Foundation Grants

Experimental units for the intensive care of patients are being developed in two Midwestern hospitals—the Community Hospital of Battle Creek and the Rochester (Minnesota) Methodist Hospital—partially through the use of W. K. Kellogg Foundation funds. Foundation commitments to the Battle Creek institution include an amount approximating \$100,000 covering the construction and equipment of that part

of the hospital's fifth floor to be used for the intensive care unit, \$22,500 for a University of Michigan study of the experiment over a 24 month period, and \$2,450 for the visits of a survey team to intensive care units in various hospitals. The Foundation commitment to the Rochester Hospital (affiliated with the Mayo Clinic) is for \$50,000 to evaluate the "revolutionary" plan for care of the critically ill which has been functioning for slightly less than a year.

MEND News

Applications by members of faculties of MEND-affiliated colleges of medicine for participation in the course, "Management of Mass Casualties" far exceeded spaces available. The course was held September 15-20 at Walter Reed AMC. However, the Army made additional spaces available in a similar course conducted at Fort Sam Houston, Texas, the following week.

Copies of the National Library of Medicine's publication "Bibliography of Space Medicine," which were furnished to MEND by the Library, were distributed to all MEND Coordinators.

National Health Council appoints Associate Director

Mr. Levitt Mendel has been appointed associate director of the National Health Council. Mr. Mendel was formerly with the Allegheny County Health Department, serving as director of public information and health education.

Society for Crippled Children has film available

The National Society for Crippled Children and Adults, Inc. now has available a documentary film entitled, "Reach for Tomorrow." Narrated by Henry Fonda, the film is designed to give full portrayal to the broad scope of care and treatment available to the child who must walk with crutches and the adult confined to the wheel chair. Suitable for use at annual conventions and

medical groups, the film may be obtained by writing to the Society, 11 South LaSalle Street, Chicago 3, Ill.

Pan American Sanitary Bureau maps program

Over 200 public health projects were examined and a comprehensive program and budget for 1959 adopted at the 15th Pan American Sanitary Conference meeting held September 21 through October 6 in San Juan, Puerto Rico. It was attended by public health ministers and leading health authorities of the Western Hemisphere. The Conference, meeting once every four years, is the supreme governing body of the Pan American Sanitary Organization—the regional organization in the Americas of the World Health Organization.

Medical Electronics Meeting held

At the invitation of Dr. Vladimir K. Zworykin of the Medical Electronics Center of the Rockefeller Institute, and with the cooperation of UNESCO and a number of scientific societies, a group of 76 representatives from 11 countries met at the New Faculty of Medicine in Paris this summer to plan expanded international cooperation in the field of medical electronics. This was the first international meeting of its kind ever held. The groundwork for the conference was under the direction of Dr. Maurice Marchal, of the School for Advanced Study, Paris, and Professor A. Fessard, College of France, Institute Marey, who presided at the first sessions.

In opening the conference, Dr. Zworykin pictured the great potential in medical electronics. It is his opinion that there should be well coordinated planning of projects which can be achieved by the formation of national and international committees on which doctors and electrical experts are equal partners and where the scientist and engineer provide the apparatus and leave the interpretation and application of results to the medical profession.

Government Notes

The Air Force reports that Brigadier General Earl Maxwell, USAF (MC), retired September 1, after 30 years active service, 26 as an Air Force Flight Surgeon. General Maxwell has been assigned to the Norton Air Force Base, California for the past two years.

Major General Harry G. Armstrong, USAF (MC), a pioneer in aviation and space medicine and former Surgeon General of the United States Air Force, retired September 1, after almost 30 years of military service. General Armstrong was the first to conduct many experiments which provided the medical knowledge to enable man to fly at the great altitudes and high speeds of today's military and civilian aircraft.

The Army reports that Brig. General Sam F. Seeley, Medical Corps, Chief of the Professional Division in the Office of the Army Surgeon General, is retiring after 31 years' service. General Seeley was one of the pioneers in intra-arterial transfusions and has made a number of contributions to vascular surgery.

The Department of Health, Education and Welfare announces approval of 58 grants totaling \$12,789,758 to 51 institutions in 25 states and the District of Columbia for the building and equipping of facilities for research in the sciences related to health. These are the first grants approved under this year's appropriation of \$30 million to encourage further expansion of the Nation's health research facilities.

AUDIO-VISUAL NEWS

Medical and Allied Conference

As a result of repeated requests, the Sixth Annual AV Conference of Medical and Allied Sciences voted recently in Chicago to hold annual open sessions for guests interested and active in the medical and allied fields. These guests will include representatives from pharmaceutical companies, government agencies, peripheral associations and film producers.

Membership to the Conference is limited

to two representatives from each of the national non-profit, non-governmental associations or groups devoting resources to AV materials and programming in the medical and allied fields.

New Film Acquisitions

"The Eye in General Medical Diagnosis" and "The Man Who Didn't Walk" (third in the series "Medicine and the Law" produced by the American Medical Association and the American Bar Association in cooperation with Wm. S. Merrell Company) have been added to the MAVI Film Library. "The Man Who Didn't Walk" was donated by the Wm. S. Merrell Company.

Extra-Curricular Film Programs

During the last year, the University of Washington has presented noon film programs for medical students outside the regular schedule of classroom showings. Departments cooperating by suggestions and participation were anatomy, pathology, physiology, psychiatry, child study clinic, surgery, pediatrics, pharmacology and biochemistry.

Student sentiment favors continuance of the program, and many are willing to invest time in film selection. Nine departments suggested films for the series and instructors from six departments were present during and following the showings. Four departments used the showings not only to amplify instruction time, but to inform staff members of film content in certain areas.

New Appointment

Dr. FLOYD S. CORNELISON, Jr., of Wellesley, Massachusetts and former fellow of the MAVI, has accepted a position as Assistant Professor of Psychiatry at the University of Oklahoma School of Medicine.

Three New Science Films

The Audio-Visual Center at Indiana University, Bloomington, announces the re-

lease of three new films in biology, in step with current plans for strengthening the training of scientists in the United States. Stressing the significant roles played by microorganisms in the biological world, the films show how man studies, uses and controls bacteria. "Bacteria: Laboratory Study" shows characteristics of microorganisms and proper methods for studying them. "Microorganisms: Beneficial Activities" points out many common uses of bacteria in everyday life and indicates that most microorganisms are beneficial to man. "Microorganisms: Harmful Activities" explains how microorganisms cause diseases and how they can be controlled. Each film is 15 minutes sound, in black-and-white and color, and can be previewed, purchased or rented from the Center.

Fund for Medical Education establishes research program

To help support the search for new medical knowledge and to increase the number of trained medical researchers, the National Fund for Medical Education has established a Medical Research Program through which contributions from united funds, community chests, voluntary health agencies and other organizations will be channelled into basic research. Because a major portion of medical research is carried on in the medical schools, whose faculties teach and conduct research, Fund President S. Sloan Colt, stated he was confident that the new program would help many schools to further improve the quality of undergraduate medical education. It is Mr. Colt's opinion that the greatest need in research today is for the support of basic research and the training of research personnel and the bulk of research money available at present is for project research.

Medical Writers' Association honors two physicians

Dr. Charles W. Mayo is the recipient of the 1958 Honor Award given by the American Medical Writers' Association. Dr. Mayo

is professor of surgery, Mayo Foundation Graduate School of Medicine, University of Minnesota and editor-in-chief of *Postgraduate Medicine*. Dr. Theodore R. Van Dellen, health editor of the Chicago Tribune, assistant dean and associate professor of medicine, Northwestern University School of Medicine, is the recipient of the 1958 Distinguished Service Award. The awards were made at the Association's 15th annual meeting held September 26, in the Morrison Hotel, Chicago.

American Heart Association

Approximately 3,000 physicians, research scientists and lay leaders will attend the American Heart Association's annual meeting to be held October 24-26 in San Francisco, Calif. The three-day program is designed to cover all medical interests in the cardiovascular field. An all-day scientific session for clinicians has been made a regular part of the 1958 Scientific Sessions because of its popularity when it was inaugurated last year.

The Albert Lasker Award of the American Heart Association for distinguished achievement in cardiovascular research will be conferred during the sessions.

AAMC Report Reviewed

"The Appraisal of Applicants to Medical Schools," a recent AAMC publication has received a favorable review in the August issue of *Contemporary Psychology*.

The AAMC publication is a report of the Fourth Teaching Institute of the Association and emphasizes the applicant's will to succeed in medical school and later practice. It was edited by Helen Hofer Gee, Director of Research at the AAMC, and John W. Cowles, assistant to the Vice Chancellor for personnel services, University of Pittsburgh and chairman of the Institute.

In reviewing the publication, Donald W. Fiske, associate professor of psychology, University of Chicago, states that the Teaching Institute accomplished what it set out to do. He points out that "the main value of

the Institute or at least of its published products, is its stimulus value and its providing a set of diverse ideas which enable the reader to gain new perspectives on old problems."

Fiske feels that not only the selector in the medical school but also the psychologist and the interested layman will find the report valuable. He adds, however, that it will be of most value to the group to which it is primarily directed, the persons engaged in choosing young people for medical training. Fiske concludes his review with the opinion "that much work was done in preparation for the institute; the papers were carefully prepared and all participants had in common the results of the surveys of fact and opinion about admissions practices. And much was done afterward by the editors to make this volume a well-organized, readable, and stimulating report."

The Appraisal of Applicants to Medical Schools. (Report of the Fourth Teaching Institute, AAMC, Colorado Springs, Nov. 7-10, 1956.) Edited by Helen H. Gee and John T. Cowles with the assistance of the Planning Committee; editorial coordination by E. Shepley Nourse. Association of American Medical Colleges, Evanston, Ill., 1957. Pp. xix+228. \$3.00 (cloth). \$2.00 (paper).

Medical College Costs

"A Study of Medical College Costs" by Augustus J. Carroll, business manager, Upstate Medical Center, State University of New York, Syracuse, N.Y., has been published recently by the Association. A summary of the 188-page report was presented by Mr. Carroll at the Annual Meeting of the Association in Philadelphia. Copies of the study are available for \$1.50 post-paid by writing to the Association of American Medical Colleges, 2530 Ridge Avenue, Evanston, Illinois.

New PR Director

The National Fund for Medical Education announces the appointment of Miss Joyce Rosen as Public Relations Director. Miss Rosen succeeds Raymond Torr who

passed away this summer. A graduate of Hunter College, Miss Rosen was Campaign Publicity Director for the National Foundation before coming to the Fund. She has also worked in the Public Education Department of the National Health Council and was with the New York Cancer Committee for four years.

Individual Membership

More than 800 applications for membership have been received by the AAMC as a result of the Association's extension of individual membership to teachers of medicine and medical education administrators last May. Membership fees are \$10 annually and should be included with the completed application.

Teaching Hospital Section

Ninety-one administrators of teaching hospitals throughout the country have been nominated by the deans of their medical schools to the newly created Medical School-Teaching Hospital Section of AAMC.

The group held its initial meeting October 10-11 at the Sheraton Hotel in Philadelphia in conjunction with the Annual Meeting of the Association.

The program was divided into three main divisions: an introductory session in which "The Significance of the Medical School-Teaching Hospital Section" was highlighted;

"The Changing Pattern of Medical Education" with its implications to the medical school, the hospital and medical practice; and "Private Patients in Teaching" from the standpoint of the hospital, medical school, and clinical teacher. Twelve authorities in medical education including deans and hospital administrators appeared on the program.

Membership in the new section was limited in the formative year to the number of medical schools holding membership in the AAMC. Each dean was asked to nominate only one representative from his main teaching hospital.

The creation of a forum for the study of the role of teaching hospitals in medical education is one of the purposes of the new Section. It is also hoped that members of the Section will henceforth attend the Annual Meetings of the AAMC and through this endeavor establish a greater understanding between administrators of medical schools and teaching hospitals.

Central Agency

The Medical Audio-Visual Institute of the AAMC was recently chosen as the central purchasing and distribution agency for pathology films. The Committee on Motion Pictures of the Intersociety Committee for Research Potential in Pathology, Inc., will review and approve films to be purchased by the MAVI for distribution to pathologists.

PERSONNEL EXCHANGE

Faculty Vacancies

BIOCHEMIST: Applications are invited for the Chair of Biochemistry in the Faculty of Medicine. Minimum qualifications: M.D. with special training in Biochemistry, or Ph.D. in Biochemistry. Teaching and research experience essential. Salary in the range of \$10,000, depending on qualifications and experience. Address applications or enquiries to L. G. Bell, M.D., Dean, Faculty of Medicine, The University of Manitoba, Emily & Bannatyne, Winnipeg 3, Man., Canada.

BIOCHEMIST: Teaching and research, department of biochemistry, University of Alabama. Salary and rank depend upon educational background, teaching and research activities. Reply should include personal history, complete bibliography and photo. Address: Emmett B. Carmichael, Department of Biochemistry, Alabama Medical Center, Birmingham 3, Ala.

OBSTETRICS and GYNECOLOGY: Full-time Board eligible instructor for expanding Department Obstetrics and Gynecology in large midwestern university. Ample opportunity for research, teaching and clinical experience. Address: V-68.

FELLOWSHIP IN CARDIOVASCULAR DISEASE: Active participation in cardiac catheterization, cine-angiography, phonocardiography and experimental surgical laboratories. Should have completed internship. Possible later incorporation into surgical or medical residency. Apply to J. G. Mudd, M.D., St. Louis University Hospitals, 1325 S. Grand Blvd., St. Louis 4, Mo.

DIRECTOR OF NARCOTIC ADDICTION FOUNDATION: Applications are invited for the post of full-time Director, with teaching appointment within the Faculty of Medicine of The University of British Columbia. *Qualifications:* Certification in Psychiatry by the Royal College of Physicians and Surgeons of Canada or the American Board of Psychiatry, or their equivalent, and preferably with some experience in socio-psychiatric research. *Duties:* To direct the work of a therapeutic and research team of psychologists, social workers and resident personnel; to inspire and guide a program of treatment, rehabilitation and research where, for the first time, there will be developed a socio-medical approach to the treatment of the drug

addict. The program will be one of gradual expansion including long term follow-up services in the social and vocational rehabilitation of the individual. Salary open, dependent on the qualifications and experience. Direct replies to the President, Narcotic Addiction Foundation of B.C., 835 West 10th Ave., Vancouver 9, B.C. All communications treated as confidential.

HISTOLOGIST-EMBRYOLOGIST: Junior appointment suitable for young doctorate, on medical faculty of Canadian medical school in Ontario. Facilities and time for research. Send curriculum vitae with application. Address: V-69.

OPHTHALMOLOGIST: Full-time assistant or associate professorship available in Eastern university medical school. Excellent opportunity for young man interested in academic career. Ample facilities, support and time for research. No private practice required. Address: V-70.

SENIOR PATHOLOGIST: Three hundred forty bed general teaching hospital and large diagnostic clinic, located in the East. All departments adequately staffed by full-time board certified M.D.'s and Ph.D.'s. Please give full summary of qualifications when answering. Apply to Administrator, Guthrie Clinic-Robert Packer Hospital, Sayre, Pa.

ANESTHESIOLOGIST: Board qualified, to be in charge of midwest university hospital service. Active general, thoracic, and cardiovascular surgical program. Ample research and teaching opportunity, attractive salary. Address: V-71.

PEDIATRICIAN: Full time clinical teacher for department with active student and house staff educational program. Person interested in clinical teaching as a career desired. Considerable small group teaching with less emphasis on lectures. Rank and salary dependent on qualifications. Address: V-72.

VIROLOGIST and IMMUNOLOGIST: Research position in medical school for young Ph.D. interested in immunology and virology to cooperate in a research program as well as to pursue individual interests. Salary depends upon qualifications and experience. Opportunity for teaching. Address: V-73.

To aid in solution of the problem of faculty vacancies, MEDICAL EDUCATION will list persons and positions available, as a free service. The school department or person may have the option of being identified in these columns or of being assigned a key number for each position listed. Mail addressed to key numbers will be forwarded to the person or department listing the request.

Information for these columns should reach the Personnel Exchange, *Journal of Medical Education*, 2530 Ridge Avenue, Evanston, Illinois, not later than the 10th of the month which precedes the month in which the listings will appear.

Personnel Available

PREVENTIVE MEDICINE: British, married with one child. Medical graduate of Edinburgh University, 1952. Served two years National Service as Captain in Royal Army Medical Corps—M.O. in charge Chest Investigation Unit at Army Hospital. Several internships in medicine, surgery and experience in general practice. Post-graduate year, for D.P.H. in Edinburgh University. Presently on staff of Usher Institute of Public Health and Social Medicine, Univ. of Edinburgh, with teaching and research duties. Author and co-author of articles in medical journals. Desires appointment in American university in Public Health (Preventive Medicine). Address: A-353.

PHYSIOLOGIST: Ph.D., 1954. Male, 39, married. Teaching and research experience. Presently assistant professor in dental school. Desires teaching position with research opportunities in medical or dental school. Address: A-354.

PSYCHIATRIST: Age 37, certified, F.A.P.A., at present associate professor in medical school, 9 years experience in teaching and private practice, numerous consulting appointments, desires relocation. Address: A-355.

MICROBIOLOGIST: Ph.D., 32, married male, six years research and three years teaching experience. Research interest in microbial pathogenicity, enterocci and immunology. Desires teaching position allowing time for research. Address: A-356.

BIOSTATISTICIAN: From basic medical sciences department and currently on overseas lectureship award on the application of statistical methods to biological research data, seeks academic post combining teaching and research. Address: A-357.

SURGEON: Certified general, thoracic. Age 37, 12 years training teaching hospitals. Publications; interested research, teaching. Desires academic position. Address: A-358.

PHYSIOLOGIST: Ph.D., M.D., 38, presently professor of physiology in prominent Midwestern medical school. Eleven years experience in teaching medical physiology. Over 50 publications in cardiovascular physiology. Investigative interests: experimental hypertension, cardiac output, regional blood flow, transcapillary transfer rates. Experienced radioisotopes. Desires position Middle Atlantic area or Pacific Coast. Teaching position preferred; research position acceptable. Address: A-359.

BIOCHEMIST: Ph.D. 1951. Diversified research experience: physicochemistry and structure studies of proteins, kinetics and thermodynamics of enzymatic reactions, steroid and antibiotic isolation. Chromatography, physical

techniques and electronica. Publications. Desires career position in either academic or research institute. Address: A-360.

EPIDEMIOLOGIST: Age 31. M.D., Washington Univ., 1951. M.P.H. Yale 1957 (Dr. P.H. Yale 1959). Desires affiliation with department of preventive medicine and responsibilities for cardiovascular disease, epidemiological research. Available September 1958. Address: A-361.

INTERNIST-PSYCHIATRIC ORIENTATION: Certified, 36, desires to participate in practice of comprehensive medicine. Southwest location. Address: A-362.

GASTROENTEROLOGIST: Board eligible. Excellent university hospital training. Three years in GI clinical, teaching and research experience, and all GI procedures. Primary research interest in intestinal absorption. Present faculty appointment. Desires relocating in teaching position with definite research opportunity. Address: A-363.

MICROBIOLOGIST: Age 33, married. M.S. Bacteriology, 1949, Ph.D. Microbiology, 1958. Publications. Seven years teaching experience. Presently, research fellow in Eastern university. Desires teaching position with opportunity for research. Address: A-364.

CLINICAL NEUROLOGIST: British, M.A., M.D. (Cambridge, England), M.R.C.P. (London). Six years training on staff of National Hospital, Queen Square, London. Consultant neurologist on staff of London hospitals with long experience in research. Author of several books and numerous publications. Teaching experience and lecturing at American universities. Desires post in clinical neurology with facilities for teaching and research at professorial or assistant professorial level. Address: A-365.

PSYCHIATRIC SOCIAL WORKER: Female, single. Social Science and Administration Certificate, The London School of Economics and Political Science, England. Group work, B.S.W. University of Toronto, School of Social Work, Canada. Psychiatric Social Work, M.S.W. and Advanced Curriculum, Univ. of Pennsylvania. Experience in administration (United Nations). One year in residence in a State hospital followed by two years of clinical work in a university setting. Familiar with family centered teaching of medical students and residents. Desires faculty appointment. Available from September. Address: A-366.

MICROBIOLOGIST: Completing all requirements in September for the Ph.D. degree in Medical Parasitology, with a minor in Bacteriology and Immunology. Desires position in medical school teaching microbiology with opportunity for research. Address: A-367.

PATHOLOGIST: Age 44, certified C.P. and P.A. Academic background with extensive teaching experience. Particularly interested in medical and pediatric pathology. Organized and presently operating large department in university hospital. Desires to relocate in major city, east or west coast. Interested in combined teaching-service type practice in university or affiliated hospital. Address: A-368.

EPIDEMIOLOGIST: Age 30, M.D., M.P.H., requirements completed for Dr. P.H. Experience in obstetrics, student medicine, health department and chronic disease research. Desires teaching and research position in medical school department of public health and preventive medicine. Research in many fields; publications. Address: A-369.

MICROBIOLOGIST: Ph.D. Training, experience and publications in bacterial physiology (nucleic acid synthesis) and immunology or immuno-chemistry (antibody formation); several years teaching experience of medical students, nurses and technicians. Desires medical school or other academic position in teaching and/or research. Address: A-370.

NUTRITIONIST-BIOCHEMIST: Ph.D. Physician. Eight years experience teaching medical and graduate students. Associate professor in leading Eastern university. Numerous publications and membership in leading professional societies. Desires medical school position where there is available a combination of pre-clinical and clinical teaching with research facilities. Principal interest and experience in nutritional biochemistry and metabolism. Address: A-371.

PATHOLOGIST: Age 34. Eight years diversified teaching and research experience. Specialist interest in hepatic pathology. Present faculty appointment. Desires relocating in academic position. Address: A-372.

PEDIATRICIAN-PSYCHIATRIC ORIENTATION: Age 34, certified, F.A.A.P. Five years of private practice. Desires academic position with opportunities for research in psycho-

somatic aspects of pediatrics. Available July 1959. Address: A-373.

ANATOMIST: Age 35, married. Desires change of position with more time for research, in Canada or U.S. Medical graduate of London Medical School and the English Royal Colleges. Also a London Ph.D. Has had extensive medical experience and surgical training before becoming an anatomist. Since then lectureship in a London school and Senior Lectureship and Readership for six years in a British overseas university. Has had responsibility for teaching, planning and administration. Publications in journals. Address: A-374.

ALLERGIST: Board eligible in medicine. Desires career type opportunity in teaching and research. Has basic training in immunology. Will consider full-time, geographic full-time and half-time opportunities. Address: A-375.

INTERNEIST-BIOCHEMIST: Ph.D., M.D. Age 42. Desires opportunity to do research with some clinical work, interested in rheumatic diseases, experienced teacher and investigator. Wide scientific background, including radio-isotopes, publications. Address: A-376.

ROTATING INTERN: Age 26. Publication co-author. Desires faculty appointment in general surgery. Excellent references. Available July 1959. Address: A-377.

PEDIATRICIAN: Diplomate American Board of Pediatrics. Currently assistant professor; seeking a teaching position in a new location. Address: A-378.

ORTHOPEDIC SURGEON: British, age 36. F.R.C.S. (Edin.) F.R.C.S. (Eng.) Guy's Hospital Medical School, London. Publications, British Medical Journal. Eight years experience. Desires position in American medical school, preferably in orthopedic and traumatic surgery. Prepared to sit any necessary licensure or other examinations. Prefers settling in a maritime state with a warm climate. Address: A-379.

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Individual Membership

in the

Association of American Medical Colleges

In recent years the activities of the Association of American Medical Colleges have expanded far beyond the original considerations of administrative problems to the many and varied problems of medical education as encountered by the entire medical school faculty.

The expansion of activities has been due to the growing complexity of medical education—the swift development of the medical sciences, the rapid accumulation of new knowledge to be taught, the pressure for more graduates, the changing patterns of medical care, and countless other factors.

Because of these factors, the AAMC recognizes the need for a professional organization to represent not only the medical schools but the faculty members of these schools. Through the offering of individual membership, the AAMC provides you with the opportunity to exchange ideas, opinions and information through the Annual Meeting, Teaching Institutes, and other activities of the Association.

The AAMC also encourages you to attend the Annual Meeting, not only to meet with others who are teaching in your field and discussing the educational problems that are peculiar to it, but also with the idea of becoming familiar with the entire field of medical education as one of society's most important enterprises. The time has come when teachers of medicine must meet together and discuss the problems and activities that are peculiar to medicine as education just as they are accustomed to meet and talk about medicine as science.

As an Individual Member you are entitled to receive *The Journal of Medical Education*, the only magazine devoted exclusively to medical education. The Journal also carries the latest news from the medical schools and provides a valuable service through its Personnel Exchange column. You receive the yearly *Directory*, the *Proceedings of the Annual Meetings*, and *The Medical Monitor*, a newsletter which will keep you informed on items of current interest in the field of medical education, both nationally and internationally.

Individual Membership, at only \$10 a year, is open to any person who has demonstrated a serious interest in medical education over a period of years. All the privileges of membership and a provisional membership card are granted immediately after payment of the \$10 fee, although confirmation must await official action at the next Annual Meeting.

To obtain membership, fill out the application form below, append check for \$10, and return to the Association's central office at 2530 Ridge Ave., Evanston, Ill.

INDIVIDUAL MEMBERSHIP APPLICATION

ASSOCIATION OF AMERICAN MEDICAL COLLEGES

2530 Ridge Ave., Evanston, Ill.

Name: _____

Mailing Address: _____

(City)

(Zone)

(State)

Field of medical education in which chief interest lies: _____

College or other connection: _____

PUBLICATIONS

Useful information for both medical educators and students is published by the Association of American Medical Colleges. These publications may be obtained from the Association headquarters office, 2530 Ridge Avenue, Evanston, Ill.

Booklets

Medical Education Today (\$1.50).

Admission Requirements of American Medical Colleges—1958-59 (\$2.00).

Fellowships, Funds and Prizes Available for Graduate Medical Work in the U.S. and Canada—4th edition, published 1954 (\$1.50).

By-Laws of the Association of American Medical Colleges (Revised 1955).

Minutes of the Proceedings of the Annual Meetings (1953-57 Minutes now available).

Public Understanding and Support of Medical Education.

History of the Association of American Medical Colleges—1878-1956

The Journal of MEDICAL EDUCATION

A monthly journal devoted exclusively to medical education.

Subscription rates: \$7 per year, \$13.50 two years, \$19.50 three years. Foreign \$8 per year, \$15.50 two years, \$22.50 three years. Pan America and Canada \$7.50 per year, \$14.50 two years, \$21.00 three years. Single copies \$1.00.

Journal supplements available:

The National Health Service of Great Britain (\$1.00).

Education of Physicians for Industry (\$2.00).

Support of Research by American Cancer Society (\$1.00).

An Analytical Study of North Carolina General Practice 1953-54 (\$3.00 clothbound).

Survey of Women Physicians graduating from Medical School 1925-40 (\$1.00).

Suggestions for Supplementing the Medical Curriculum in Time of National Emergency.

Medical Education for Foreign Scholars in the Medical Sciences (\$1.50).

A Study of Medical College Costs (\$1.50)

El Estudiante de Medicina (\$1.00)

Teaching Institute Reports (\$2.00 paperbound, \$3.00 clothbound).

Report of the Conference on Preventive Medicine in Medical Schools (Report of the 1952 Institute).

The Teaching of Physiology, Biochemistry and Pharmacology (Report of the 1953 Institute).

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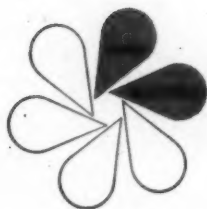
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